Harvard Medical Alumni Bulletin

Winter, 1968

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THE COOP

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HARVARD MEDICAL ALUMNI BULLETIN
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CONTENTS

PREPARATION OF THE PHYSICIAN FOR TODAY'S SOCIAL RESPONSIBILITY 2
by Robert H. Ebert

CHANGING CONCEPTS OF "SCIENTIFIC" MEDICINE 8
by Lester S. King

ZINACANTAN: WHICH DOCTOR? 12
by Mark L. Rosenberg

EPIDEMIOLOGY OF INDUCED ABORTION 16
by John A. Asher

SEDGES AND A SPUR 22
by George E. Gifford, Jr.

EDITORIALS 26

ALONG THE PERIMETER 28

BOOK REVIEWS 33

LETTERS 33

ALUMNI NOTES 34

DEATH NOTICES 38

HOWARD F. ROOT 39

COVER: Boott's Spur (5,500 ft.), set on a ridge running south of Mt. Washington, New Hampshire, is a familiar sight to skiers who tackle Tuckerman's Ravine. Dr. Gifford's article on page 22, describes how the Spur came to be named.

CREDITS: Photographs: Harold Orne, cover, 22; William H. Tobey, 2; Mark L. Rosenberg, 12–15; Bradford F. Herzog, 31 (Dr. Viets); Andover Art Studio, 31 (Dr. Phippen). Engraving, 16 from *Aesculapius in Latin America*, W. Saunders Company, Philadelphia, 1944.

The opinions of contributors to the Bulletin *do not necessarily reflect those of the Editorial Staff.*

Preparation

by Dean Robert H. Ebert, M.D.

This article was first delivered as The Kate McMahon Lecture at Simmons College, Boston, on October 19, 1967.

Much has been written in recent years about medicine and the physician. In keeping with the "Madison Avenue" approach of our culture, a good deal of rhetoric has been lavished on the "image" of the doctor, and even more on the dramatic advances in the science of medicine. A cursory survey of what has been written in newspapers as well as weekly and monthly magazines permits the conclusion that medical science comes off rather well and the doctor's image not so well. One gains the impression that doctors as a group are motivated by money, are becoming less and less interested in patients as people, and are socially irresponsible. More often than not an author will point out that his own doctor is a good fellow but that the remainder of the profession is grasping, money-hungry and dehumanized.

There are gross inaccuracies in what has been written about the medical profession, just as there are in what has been written about big business and labor unions. But it is more important to ask why there is so much interest in the doctor than to evaluate critically what has been said about him. I believe it stems from an uneasiness on the part of both the public and the medical profession. The public has been indoctrinated to believe in the miracles of modern medical science, but the reality of delivery falls short of the expectation. The doctor is uneasy because his traditional role seems to be changing. He can no longer act solely as an individual, for he has become increasingly dependent upon others—other doctors, others in the health field, and above all upon the many people who work in the hospital. This changing role is related to his changing social responsibility and he is ill-prepared for the change.

The doctor is a frequent target for attack because he is said to lack a feeling of social responsibility. I believe this to be unfair, for in my opinion the average physician has a strong sense of social responsibility but it is a highly individualistic feeling which is largely invisible to the critical public. There is, as one might expect, great individual variation in the degree to which this feeling is developed but the same can be said for any other group in our society.

How is the sense of social responsibility displayed by the physician? It is primarily manifest in the relationship between doctor and patient. Traditionally, the physician assumed a

of the Physician for

Today's Social Responsibility

total responsibility for the health of the individual patient who sought his care. This relationship was maintained until the doctor discharged the patient or until the patient discharged the physician. As we shall see, this relationship is no longer quite so simple, but in one way or another the physician continues to assume that this one-to-one relationship between doctor and patient represents his primary responsibility toward society.

There are two other traditional ways in which the physician has sought to discharge his social responsibility. The first is by the provision of free care to the poor; the second is by teaching without financial reward. But these roles are also changing, and part of the modern physician's dilemma is the impending loss of this highly personal kind of giving.

Let us examine what changes have occurred, which have affected the physician's social role. The most profound has been caused by scientific and technological revolution in medicine. Medicine is a far more complex art today than it was a generation ago, and the omnipotence of the individual physician in providing for all the needs of his patient has been lost. The science of medicine is changing at a logarithmic rate; therapy, whether manipulative or pharmaceutical, is becoming more specific, more potent, and more dangerous, and no physician today would claim that he can keep up equally well in all fields of medicine, even if he were to devote full time to such an endeavor. The physician has been forced to specialize because he cannot maintain competence in every field, with the result that today only 14 per cent of medical graduates plan to enter general practice.

Inevitably, these dramatic changes in the science of medicine have affected the manner in which the physician discharges his primary social responsibility—that is, the care of the patient. In a simpler age, the physician knew not only his patient but the patient's family; he was familiar with the patient's social and economic background, and he was able to provide care with a kind of personal understanding often absent today. The physician was able to do far less medically than he can today but no one could do much more; the general practitioner could safely provide most of the care needed by a family. Understandably, there is a nostalgia for this kind of relationship and it is reflected in many of the articles written about the changing image of the doctor. Where is the understanding, fatherly physician of another generation? Why has the physician changed, and why has he become coldly scientific and uninterested in the "whole patient?" These are the questions asked again and again. The answer, of course, is relatively simple. The physician did not change because he wanted more money or was dissatisfied with a role enjoyed by a past generation. He changed because medicine changed and society changed. And in many ways the physician is as uneasy about the change as the public seems to be. No longer can he provide for every need of the patient. He must call for help from a variety of experts, or if he is expert in one area himself he restricts his practice to that one area. Even if he is a general practitioner, he lives in a more complex society and is likely to know less about the patient's role in the community than did his counterpart a generation ago.

The result is a more specialized and a more fragmented kind of medical care, often with no one coordinating the total care for the individual, much less the family. The physician is often accused of abdicating his primary responsibility for the patient. This is an oversimplification. He continues to assume a very real responsibility for that part of the medical care which he feels competent to provide, and he is usually willing, if asked, to recommend other specialists. Often he is not asked to do so, and here the system breaks down. We have a system of medicine predicated on the concept of a family physician who refers to the specialists only for rare and unusual disease. We have developed a science of medicine which requires the skills of specialized medicine in everyday practice. The concept of family medicine and the reality of specialized medicine are in conflict, with the result that the public is confused and the physician frustrated.

Not all physicians provided free care for the poor, but the tradition was a strong one and more physicians participated in this method of giving than the general public realizes. My father was a physician and he always provided free care for members of the clergy, and nurses as well as for physicians. In addition, he spent two half-days a week at the County Hospital, giving his time without remuneration. This was his way of giving and he felt personally rewarded by providing free care. Nor was he unique. Many physicians took the "Robin Hood" approach toward the economics of medical care. They charged the rich more than those with middle incomes and provided free care for the poor. The advent of health insurance changed this approach. Now Medicare and Medicaid seem destined to end the provision of free care in the office and the clinic.

Teaching has been linked with free care in the clinic and in the hospital ward, and this, too, seems likely to change now that the system of payment has changed. In an article

by Michael Halberstan in *The New York Times* Magazine section for August 13, 1967 the author quite eloquently editorializes on what the loss of his opportunity to provide free care and to volunteer his teaching services on the wards of the Washington D.C. General Hospital would mean. In commenting on the care of ward patients he sees on teaching rounds, he states "If I were paid for this work by Medicaid, I do not think I would be too happy about turning over my fees to anyone or anything else—Congress, after all, meant the money for me. On the other hand, I do not think that my care of patients would be changed one way or another by the fact that I was being paid for what I formerly did free."

The author is not hypocritical; he is truly distressed that his traditional way of providing free care and teaching on the charity wards is changing with the advent of social legislation. He is a socially responsible physician who is now being told that his method of giving is outdated. The problem we face is not how to provide the physician with a feeling of social responsibility but how to substitute successfully a broader kind of responsibility for one which has been intensely personal.

The Social Problems of Medicine

THERE IS NO LACK of problems to preoccupy the physicians who wish satisfaction from personal involvement in the health field. In my opinion the social problems are of greater magnitude than those which are strictly medical. Not only is there a place for the physician in the approach to these problems but he *must* be involved if they are to be solved. Let me describe what I believe to be some of the pressing social issues that involve the medical profession.

1. The utilization of medical resources

No social institution has been more subject to the winds of change than has the hospital, and none is more critical in planning for the health needs of our citizens. It is well to remember that hospitals were created as eleemosynary institutions, dedicated to the care of the sick poor, and turned to the care of the more affluent members of society in the relatively recent past. This fact is important, for our thinking about the hospital is colored by its past.

In the 19th century, and even at the beginning of the 20th century, it was usually safer to be cared for at home than in the hospital. The primary purpose of the hospital was domiciliary and those in greatest need of beds and nursing care were the poor. With the discovery of the principles of asepsis, the refinement of anesthesia, and the improvement in the science of surgery a new role for the hospital developed. It was no longer possible to provide care in the home of equal quality as in the hospital, and the more affluent now sought hospital care. Voluntary hospitals built private pavilions for the care of those who could pay, and private hospitals were built in community after community stimulated by the demand from the public and encouraged by the physician. Curiously, even those hospitals which cared only for private patients continued to assume the role of charity institutions seeking subscription from the community.

The most substantial change in hospital financing was accomplished by health insurance. After a slow start in the 1930's voluntary hospitalization insurance became the predominant method of paying for hospital care, and even many patients admitted to charity wards had hospitalization insurance. Today, with voluntary health insurance, Medicare, and ultimately Medicaid, the vast majority of patients will be able to pay for hospitalization. It is not the purpose of this lecture to discuss the economics of medical care, and this brief review is given only to provide a better understanding of the modern hospital as a social institution.

The hospital was created not only to provide for the needs of the sick poor but also as a convenience for the physician. It was easier for physicians to provide free care within the walls of the hospital, or its dispensaries, than to visit the sick at home. This convenience now extends to the private patient, but the modern hospital is more than a simple convenience today. It is a vital necessity for the physician. Modern diagnosis and treatment demand a variety of skills and a complicated technology which cannot be duplicated in each doctor's office. The result is that more and more services are concentrated in the hospital or the medical center and the modern hospital has become the primary focus of medical care. And yet it continues to be used by the physician as though it were there for his primary convenience as an individual physician. The organization of the hospital reflects this attitude for the administrative staff and the medical staff are usually quite separate. Most physicians look upon the administrative staff as the housekeepers, the board of trustees as money-raisers, and the medical staff as the permanent, rent-free tenants of the hospital. The result of this divisive organization is an institution singularly handicapped in planning for the health care of the community which it serves.

Here, then, is an area for responsible social action which is new to the physician, which is less personal but which demands his participation. I do not mean that the physician should spend his time operating the hospital but I do suggest that some of the energies he now devotes to the matters of how professional fees are paid might more profitably be directed toward planning for the hospital.

Let me use the example of internship and residency programs to illustrate my point. Prior to World War II, many community hospitals had successful internship programs and some had residency programs. Residency training was greatly expanded following the war and during the late Forties and early Fifties larger community hospitals came to depend upon the services of a house staff. Interns and residents provided a significant amount of the care of hospitalized patients, and new physicians for the community were recruited from among graduates of the residency programs. About the mid-Fifties, it became progressively more difficult for the community hospital to recruit American graduates for internship and residency programs, partly because there were far more internships and residencies offered than could be filled with American graduates, partly because of the internship matching plan and partly because the medical school graduate learned that he could have a better educational experience in a university teaching hospital.

Following World War II, it became popular for graduates of foreign medical schools to seek additional training in this country, and with the relative shortage of American graduates many community hospitals came to rely almost entirely on the services of foreign interns and residents. Even this supply now seems inadequate, and many community hospitals

have either lost accreditation or are threatened with the loss of accredited programs for training interns and residents.

Remarkably little insight has been displayed by the medical staffs of community hospitals in solving this problem. Many physicians seem to feel that they have the "right" to have interns and residents and blame medical schools for not sending graduates to community hospitals. It was seriously suggested by a number of medical societies that all university internships be discontinued since university hospitals could rely on the services of medical students. Note the word, "services." They never suggested that the graduate might have a better educational experience in the community hospital. Here is a problem of the modern hospital which must be solved ultimately by physicians. The care of seriously ill patients in the hospital requires the availability of physicians' services 24 hours a day. This is why interns and residents are in demand. But there clearly are other solutions. The staff, itself, could assume the role—on a rotating basis—or fully trained physicians could be brought into the community hospital on a fulltime basis to fulfill the resident function. But hospital staffs are not well-organized for joint activity, nor do they tend to view this as a primary responsibility of staff physicians. Surely this is an area of social responsibility which the physician could assume—in fact must assume.

2. The distribution of medical care

Closely linked to the evolution of the modern hospital is the problem of the distribution of medical care. There are two groups who have suffered from the changing pattern of medical practice: the rural population and the urban population occupying the central city. Both groups present special problems, and both require new approaches to solutions.

Most of you are familiar with the problem of the rural community. Here the general practitioner is the mainstay of the medical care system, but as he grows older he is not being replaced. Community after community attempts to recruit new family physicians only to find that young physicians do not wish to practice alone in a small town. The reasons are not hard to find. Most young physicians specialize and are unwilling to practice alone; they are more and more dependent upon the well-equipped modern hospital, and finally their wives worry about the availability of good schools.

Once again, curiously little imagination has been exercised in seeking solutions to this problem. In an age of modern transportation, when the evacuation of wounded from the jungle by helicopter is routine, it should not be too difficult to plan the care for rural communities. It would take a different kind of organization of physicians, however, and would require a kind of teamwork with other members of the health professions which physicians have been reluctant to provide except within the walls of the hospital. It also would demand a new role for the regional community hospital.

The central city presents a different problem and one of greater magnitude. Few of the general practitioners who practiced in the city have been replaced, and the modern specialist serves the suburbs more than the city. The city or county hospital or large urban voluntary hospital provides most of the care for the urban poor. Often the actual medical care is good, particularly for the acutely ill patient, but too often it is care without dignity. Service is frequently fragmented among different hospitals for members of the same family, and even when paid for it tends to retain the trappings of charity.

It is not surprising that the urban poor have sought a different kind of solution. The medical programs sponsored by OEO can be criticized on many grounds but they have endeavored to give the community itself a voice in how it is to receive care—and the community does not want the charity clinic. Columbia Point is too expensive to replicate, and it has not solved the problem of its relationship to hospitals. But it has demonstrated a number of important points. First, the health problems of the urban poor are intimately linked with their socio-economic problems, and they cannot be solved by imitating the care given in the suburbs. Second, more than the physician alone is required to provide these services; a well-organized team is essential. Third, the community itself profits from a sense of active participation in the project. These are important lessons, and the physician can display a new kind of social responsibility in contributing to the solution of the problems of urban health.

3. The organization of health care

The provision of medical care in the rural community and in the central city will require a different kind of organization of medical resources than has existed in the past. The physician must learn to work more closely with social workers, nurses, visiting nurses, in fact all of the members of the health professions. There must be a sensible division of labor so that the physician performs those services which only he can do, and other duties are delegated to appropriate members of the health team. To a degree this has already been accomplished within the hospital, but team effort must be extended to provide care at all levels.

This is not an easy problem for it will be necessary to make the most efficient use of expensive manpower and still maintain the personal nature of medical care. I believe this can be done but it will take innovation and will require of the physician a new kind of responsible social action.

Care for the chronically ill and for the elderly, who so often suffer from chronic disease, is a particular case in point. Chronic illness is increasingly common and it cannot be handled effectively if it is thought of as an exclusively medical problem. The social, emotional and economic impacts of chronic disease must be understood and intelligently dealt with. Here the physician must share the responsibility with others who have special skills to offer.

4. International responsibility

The United States is a great world power. With this power goes responsibility for people in other parts of the world. There are two areas which relate directly to medicine: the training of foreign physicians in this country; and aid in the development of medical schools and medical programs in underdeveloped countries.

We have done a very poor job of training the graduates of foreign medical schools. It was noted in the discussion of internship and residency programs that we have exploited the foreign physician to provide service in our community hospitals. We have not done much better in our universities, for the training a foreign physician receives in a research laboratory is too often related more to the needs of the foreign physician. It accomplishes little to train a man in the use of the most sophisticated scientific technology if there is no comparable laboratory to which he can return and little chance to establish such a laboratory in his own country.

There are, of course, some excellent international programs sponsored by private foundations and universities but the American medical profession has never looked upon international medicine as an area for which it might assume responsibility.

It is apparent from this brief listing of social problems affecting medicine that there is no lack of projects for the socially-motivated physician. Why has the physician displayed so little interest in them? I suspect the answer lies in the manner in which he has been educated.

The Education of the Physician

The social values of the physician come from the environment of the medical school and the hospital in which he receives his internship and residency training. He does not learn them in the classroom but rather from his preceptors. He is likely to assume the social values of those he respects and for the remainder of his professional life he imitates what he has seen and experienced as a medical student and as a house officer.

To some extent these values may be molded by one or another of his basic science instructors, but the impact of his clinical teachers is much more profound. His opinions are formed in the clinic, and it is here that he ultimately comes to accept whatever social responsibility he carries. Those students or house officers who had the good fortune to learn from men of great wisdom, such as Francis Peabody '03, Soma Weiss, Howard Means '11 and Walter Bauer could not help but be influenced for the remainder of their lives. Those students taught by men of narrower vision accepted more limited horizons for American medicine.

Unfortunately, more students are taught by teachers of limited vision than by the "greats," and for this reason the actual environment in which teaching is done has a narrowing influence. What does the student (and house officer) actually see within the modern teaching hospital? Let me preface these remarks by saying that there are exceptions, but the experiences which I will describe are all too common.

First of all, he is likely to see a sharp separation between the care of the private patient and the charity or ward patient. True, this sharp division is beginning to blur but the approach to these two populations of patients remains quite different. He sees enormous preoccupation with the scientific care of the acutely ill patient but the relative neglect of the same patient once he or she is discharged from the hospital. I say "relative" because many teaching hospitals remain ill-equipped to handle the ambulatory patient and there may or may not be good continuity between the care provided within the hospital and the OPD. In any case, the student is unlikely to see the patient once he is discharged, and even the house officer might not see the patient again.

The out-patient department is often a depressing place to work and neither students nor faculty enjoy this experience as much as the in-patient service. Too often patients are treated without appropriate dignity and it is common for a patient to wait most of the day for a visit with the doctor and for various laboratory tests. It is here that the contrast between private and clinic care is the sharpest and it is here that the idea is likely to be fixed that there is one kind of care for the poor and another for the more affluent. A student placed in this environment has little opportunity to examine the socio-economic problems of his patients. He is likely to look upon the medical social worker as someone who helps in the "disposition" of patients discharged from the hospital and not as someone with very special skills which apply to all classes of patients.

In short, the student and the house officer are likely to think that the ward and the OPD patients are a convenience for him during the learning process and not a group for whom he has any long-term social responsibility. Ultimately, when he goes into practice, he will care for a different group of people—patients with middle-class backgrounds like his own—so there seems little point in learning much about this particular group of urban poor. Little of his medical school or house officer experience prepares him for anything more than responsibility for the individual patient. He has almost no exposure to the overall problems of delivery of health service to a particular population, and he tends to remain curiously detached from any commitment to the overall community which the teaching hospital serves. The result is a willingness as a practicing physician to work in the OPD but not to assume that his responsibility extends beyond the individual patient for whom he provides care.

The student and house officer should not be blamed for these attitudes, for by and large they reflect a past lack of community interest on the part of many teaching hospitals. Most hospitals felt that they were discharing their function if they provided the ward and OPD facilities for the care of the poor. But change is beginning to occur. Medical schools are coming to realize that the environment in which they teach is not entirely appropriate. Further, they are beginning to display an interest in the community as well as in the individual patients provided for in their teaching hospitals. Even those not prompted by intellectual interest realize that soon almost all patients will have the ability to pay and when this occurs the "charity environment" must disappear as well.

Much more needs to be done. More able people are needed in the medical school environment who devote their attention to the social problems of medicine. There must be study of the needs of particular communities, and innovative plans introduced by the teaching hospital to test new ways of organizing medical care. There must be a greater integration of effort of physicians, social workers, nurses and others, both in the hospital and in the community. Above all, the student must actively participate in such programs. He can learn from lectures and seminars but he must experience a new kind of social responsibility within the clinic if he is to be influenced in the future. He must see experiments in the delivery of health care. He must be made aware that the practice of medicine is now a group responsibility and he must learn to work closely with others. He must be made as aware of the social problems of medicine as he is of the biological problems.

I think that this will happen, and one reason for my optimism is the attitude of many medical students today. These students come to medical school dissatisfied with the manner in which society has handled the problems of the poor and of the Negro. They are concerned about social problems abroad as well as at home, and above all they wish to become actively involved in seeking solutions. I predict that they will provide the necessary prod to a conservative profession and to a conservative educational process.

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CHANGING CONCEPTS of "SCIENTIFIC" MEDICINE

by Lester S. King '32

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MODERN MEDICINE forms an important part of the daily news, and the news media never weary of featuring new "breakthroughs" in medical science. Today, laymen as well as most physicians, feel convinced that medicine is at last truly scientific and that in a relatively brief period it has made revolutionary progress. If we compare a present-day medical textbook with an early edition of Osler's textbook, we immediately realize that the changes are so profound they may properly be called revolutionary.

However, if we turn the clock back to the turn of the century, and put ourselves in Osler's place, we find that in the preceding half-century changes took place which were equally profound. Osler could also look back on a revolution. I need only mention the discoveries in microbiology concerning the etiology and control of disease; or the progress in pathology and microscopy; or the developments in anesthesia and asepsis.

Then, if we go back another generation or two, we find a prominent historian referring to the 1830's and the 1840's in the following words:

> An entirely new clinical medicine developed during the first part of the 19th century . . . the violence with which clinical medicine was completely revolutionized in the course of a few decades . . . will remain one of the wonders of medical history.[1]

This quotation, we must remember, refers to the period around 1830.

The concept of medical revolution is quite fluid. Recently a British scholar[2] designated three eras, each of which he thought marked a pronounced break with its past. The first

was the period of Hippocrates (about 450 B.C.), who emphasized that disease represented natural phenomena, due to natural causes. Medicine, we might say, began to be scientific. The second revolution, more familiar, he placed in the 16th century, when accurate measurement and experimental methods of physics were becoming relevant to biology and medicine. And the third began in the mid-19th century, when medicine began a social orientation, with obligations to society rather than to the individual patient alone.

There are, I believe, certain factors which run through all the successive "revolutionary" changes. The first of these concerns the general philosophic background. When I think of a change in the philosophic background, I think of a gardening experience. In my garden I once had a border of creeping phlox, and adjacent to it was an area of creeping sedum. When in contact, the two species waged a relentless war, and in a few months the sedum virtually took over the adjacent bed. The phlox did not disappear, but the sedum clearly dominated that corner of the border, and had effectively replaced the previous inhabitants.

The plants symbolize competing ideas or systems of ideas, which sometimes can coexist, but sometimes struggle with each other until one becomes completely dominant, the other almost but not quite disappearing. The conflict between plant species struggling for a single plot of land symbolizes the struggle which takes place when, in medicine, there is a conflict of basic ideas. When we review successive revolutions in medicine we can see one set of concepts, representing the invaders, coming into conflict with a pre-existing established order. If the new takes over and becomes dominant, we have a successful revolution. The old is by no means annihilated. Some individual components persist, but they are definitely subordinate.

To start, we may note the bitter intellectual struggle in medicine in the latter 17th century. There were many conflicting currents. The incumbent, so to speak, was the traditional Galenic medicine, still familiar today through the satires of Molière. The Galenic thinking emphasized what we would call abstractions, the classical example of which we find in the query, Why does opium put you to sleep? The answer: because it had a *virtus dormativa*. Opposing the Galenic tradition were the new developments in physical science, chemistry, and experimental biology, which made the 17th century a period of tremendous conflict and struggle.

For simplicity, I would indicate three distinct trends—Galenic medicine, resting on the dominant Aristotelian philosophy, and two major opponents—certain chemists, who supported neoplatonism, and the physicists and chemists who supported the mechanical philosophy and atomism, derived from Democritus and Lucretius. By analogy with my garden, the Galenic-Aristotelian concepts were the plant in possession. Exemplifying the invaders were two men, both extremely influential in medicine—van Helmont (1577–1644) and Robert Boyle (1627–1691). A half century separates them, and yet their influence overlapped.

Van Helmont was fundamentally a biologist, physiologist, and biochemist. The organic world constituted his primary interest, while the inorganic or inanimate were subordinate. He believed that spiritual forces were everywhere at work. However, although he was constantly concerned with spiritual forces as *real*, we must not regard him as a dreamy mystic. Instead, he was an extremely capable experimentalist who provided important quantitative determinations. Perhaps his most famous experiment concerns the growth of a tree.

> For I took an earthen vessel, in which I put two hundred pounds of earth that had been dried in a furnace, which I moistened with rainwater, and I implanted therein the trunk or stem of a willow tree, weighing five pounds; and at length, five years being finished, the tree sprung from thence, did weigh one hundred and sixty-nine pounds, and about three ounces . . . I computed not the weight of the leaves that fell off in the four autumns. At length, I again dried the earth of the vessel, and there were found the same two hundred pounds, wanting about two ounces. Therefore one hundred and sixty-four pounds of wood, barks, and roots, arose out of water only.[3]

He had set up a "controlled" environment. The soil remained constant. Only water was added, and consequently, only water could account for the growth of the tree. From his experiment, as well as from other observations, van Helmont drew far-reaching conclusions. He considered water the primordial material from which all other things arose, differentiated into specific materials through the action of ferments. The ferments provided specificity and individuality. The conclusions happen to be wrong, but the method was excellent and truly scientific.

Van Helmont was passionately concerned with dynamic aspects of reality, the orderly process of development and change, especially in the living body. These processes he connected with spiritual forces which control development, which represent activity and power, and make things happen. The significant feature was the inner directing spiritual force which, controlling change, brought about the appropriate goal. This is best appreciated in the development of a plant from a seed. Some implanted force brings about an orderly unrolling of events, so that an oak tree develops out of an acorn and a pine tree out of a pine cone and not vice versa.

This indwelling force represents the directing agent of spiritual, that is, non-material nature. This indwelling propulsive agent, which brought about the activity of the object, Helmont called an *Archeus*. There was a hierarchy of Archei, and they worked by means of ferments which were the specific forces which achieved the specific change. A seed, for him, represented the material husk of an indwelling spiritual directing force.

Robert Boyle stands in rather sharp contrast. Although greatly interested in biology and medicine, he approached these topics from the standpoint of mechanics rather than the organism as a whole. Just as van Helmont constantly referred to seeds to illustrate his thinking, Boyle constantly

used the example of a clockwork mechanism. The difference is profound, brought about by a totally different basic philosophy—whether to regard the world as materialistic rather than spiritual. For van Helmont spiritual forces were at work all through the world. For Boyle the spiritual factors were reserved for God, who was quite separate from the world.

Boyle would not accept spiritual forces as active in physiological processes. For example, the so-called "healing power of nature" Helmont felt represented an active spiritual agency. But Boyle believed that all phenomena included under this concept should find explanation not through some Archeus or spiritual force but through mechanical principles. He gave the analogy of a metal spring which, when distorted, would restore itself to its former state. And in a spring there was, he said, no watchful principle solicitous of making restitution. It was the nature of the spring to act as it does because of the disposition of its material particles.[4]

The mechanical philosophy, which Boyle represented, quite effectively replaced the views which van Helmont propounded. However, the replacement was not complete, for the ideas of van Helmont continued in a modified fashion through the work of Stahl and the French school at Montpellier. Nevertheless, the triumph of the mechanical philosophy illustrates one aspect of a revolution in medicine, where one basic philosophic position supersedes another.

Boyle stressed the *usefulness* of natural philosophy, which would increase the mastery over nature and could improve the practice of medicine. But his emphasis on the practical value of science leads to a second factor which I call the growth of critical attitude toward evidence. As illustration I offer an incident which relates to the Royal Society of London.

The story of the founding of the Royal Society is well known. As early as 1645 a group of learned men interested in experimental science had met informally in London. Because of the political uncertainty many of the group moved to Oxford, but with the Restoration in 1660, they reassembled in London. In 1662 Charles II granted a charter, incorporating them as the Royal Society of London.

The new society did not meet with universal approval. Its philosophy was quite contrary to the dominant teachings of Aristotle underlying so much of the culture of that era. The new philosophy also seemed to threaten the religious Establishment. At any rate, the Royal Society, early in its career, felt the need for apologists—or, as we would now say, public relations experts—who could present to the public the best possible image. One such apologist was Thomas Sprat, who in 1667 published a *History of the Royal Society*. Another apologist, Joseph Glanvill (1636–1680) has considerable interest for us today.

Glanville represented a strange mixture of religion and scientific attitude. He was a clergyman, but also a member of the Royal Society. In 1668 he wrote a little book entitled *Plus Ultra* with the sub-title, "The Progress and Advancement of Knowledge since the Days of Aristotle."[5] It was concerned essentially with defending the new philosophy and the Royal Society, which conservatives had considered subversive and atheistic. It emphasized the benefits which the Royal Society was providing and at the same time attacked the traditional Aristotelian concepts. Unfortunately, Glanvill was an enthusiast, whose theological training had fitted him more for disputes than for observation and critical judgment. He made wild claims and unsupported assertions, and yet made them sound plausible. However, he had one great merit, namely, that he supported what turned out to be the winning side. The new of "modern" science did triumph over Galenic notions. Because Glanvill backed the eventual winner, we tend to overlook his frequent bad logic and uncritical attitude.

Glanvill made utterly indefensible statements about medicine. The old philosophers, he said, had "in so many centuries never brought into the world so much practical beneficial knowledge as would help toward the cure of a cut finger." And this, he maintained, was clear evidence that the ancient methods "were fundamental mistakes." Continuing his condemnation, he said,

> and if the moderns cannot shew more of the works of their philosophy in six years, then the Aristotelians can produce in theirs in more than thrice so many hundred, let them be loaded with . . . contempt . . .[6]

This was indeed a rash claim, that the moderns had achieved more results in six years than the ancients in eighteen hundred. As evidence he praised the chemists who introduced new medicinal remedies. He praised the new anatomy which disclosed so many structures not known to the ancients, and the physiological doctrines, such as the circulation of the blood. And he praised blood transfusion, which created such a stir at that time.

The new science had resulted in many new observations and theories. But *were* these of concrete practical advantage to mankind? Did Boyle's discoveries in pneumatics or Hook's microscopic observations make the lot of the common man any more comfortable? Did the new science help, in the slightest degree, toward the cure of a cut finger? Glanvill shouted loudly, but no amount of shrill declamation could change the stubborn fact that in 1668 concrete practical advantages in medicine had *not* accrued from the workings of the Royal Society.

On the other hand, Glanville appreciated the significance of the investigative attitude. He realized that the Royal Society represented the bulwark of the new ideas and really aimed at the benefit of all mankind. This could not happen over-night. Could the critics of the Society expect "that such mighty projects as these should ripen in a moment? Can a cedar shoot up out of the earth like a blade of grass? Or an elephant grow to the vastness of his bulk, as soon as a little insect . . .?" Progress must "proceed slowly, by degrees almost insensible." He continued, "We must seek and gather, observe and examine, and lay up in bank for the ages that come after. This is the business of experimental philosophers."[7]

The Royal Society and Glanvill represent progress. Dr. Stubbe, who opposed them,[8] consequently takes on the role of reactionary. He represented the losing side, the old conservative tradition, unsympathetic with the new learning.

Stubbe and Glanvill carried out a pamphlet war, with much sound and fury. Glanville was neither a physician nor a scientist, but a clergyman young in years and limited in scholarship and experience, who nevertheless made unsupported statements about medicine. Stubbe made valid criticisms. He pitched his argument on a pragmatic basis. The

important criterion was, what worked? To cure the patient, he said, was more important than to mould a particular set of doctrines. In any conflict were we weigh opposing theories, victory must go to the side with the most effective practice.

Therapeutics was the essence or touchstone of medicine. The new science brought into medicine many so-called chemical remedies that contrasted sharply with so-called Galenicals. The new remedies seemed more "scientific" and represented Progress. But Stubbe, an old conservative, did not believe that these new remedies were, *in practice*, demonstrably superior to the Galenicals. Chemical remedies were often highly dangerous. They might indeed yield success, but, he said,

> I am confident, that whosoever shall enquire into the ill consequences of the two Pharmaceutics will say, that if the Galenical be not always the most efficacious, it is always the most safe and innocent . . .[9]

And he pointed out that the success of the chemical remedies need not necessarily be attributed to the virtues of chemistry. For, he said, "just . . . as great cures are done by country-physicians and country-gentlewomen oftentimes, as any ever wrought by chemistry."[10]

The practice of blood transfusion—from sheep into man—which had such scientific and popular appeal at this time, drew his particular wrath. Glanvill had praised transfusions as one of the great triumphs of modern medicine. Stubbe gleefully counter-attacked.

There was, he indicated, *no clear rationale*. What did transfusions actually try to do? Correct the whole mass of disordered blood by supplying a few ounces of some other blood? You might as well, he said, try to rectify decayed wine by adding a comparable proportion of good wine. Moreover, transfusing animal blood into humans [as was being done in that era] was physiologically faulty. Transfusing animal blood was, he realized, introducing foreign substances into the body. Since the blood of animals was not the same as that of man, transfusion was rash, unsafe, and without justification. "Shall a man transfuse he know not what, to correct he knows not what, God knows how?"[11]

The critic of the winning side does not ordinarily get much credit. But Stubbe, although reactionary, demonstrated how necessary is critical judgment to correct the vast enthusiasm which evolves whenever new ideas achieve some preliminary success.

What are the ingredients of progress? The older conceptual systems had to undergo a critical re-evaluation and eventual replacement. The progress of scientific medicine demanded critical acumen which could evaluate assertions and separate the valid from the invalid. This we may call destructive criticism—such as Stubbe applied to Glanvill—showing that the claims simply were not true. Stubbe, however, did not advance scientific medicine in any positive sense. He pared away excrescences. For progress we must have not only eliminative and catabolic activity, but a positive constructive aspect, an anabolism. For this we need a flash of insight, a realization of the inner connection of things. Following this flash of insight we must have the slow collection of evidence which will establish the generalization. As an example I will draw on the golden age of clinical research in the early 19th century.

I would mention briefly the work of Richard Bright who in 1827 first defined the kidney condition long known as Bright's disease.[12] He indicated that he wished to "render the labours of a large hospital more permanently useful, by bringing together such facts as seem to throw light upon each other." The difficult thing is not to observe facts but to bring together facts which somehow belong together, which, to use present-day terms, form a pattern. This is the essence of scientific medicine.

Bright perceived a connection between three distinct findings. One was edema or dropsy, a relatively common condition easily identified by inspection. The second was the coagulation of albumin in the urine when subjected to heat. And the third was a change in the appearance of the kidneys, or as Bright said, "a disorganization." Bright perceived that in certain cases of dropsy the urine would show a coagulum when subjected to heat, and furthermore, these cases also had a peculiar appearance of the kidney. Others had noted the existence of these facts individually, but Bright was the first to put them together. And he not only asserted that they belonged together but he adduced a large number of cases as evidence. His discovery identified a special class of disease that long went under the name of Bright's disease. His was the genius that first perceived the togetherness of apparently disconnected facts.

Scientific medicine depends on three factors which we can trace through history. One is the philosophical background and the general cultural pattern. These patterns, and the metaphysical assumptions which control them, compete with each other and change from one era to another. A second factor controlling scientific medicine is the critical judgment or attitude we exert towards evidence or hypotheses. And the third is the insight which permits men of genius to see a togetherness where no one had previously seen such a relationship. Through the study of these three factors we can understand the progress in scientific medicine. They are not the prerogative of the last 25 years. They have existed, in varying degree, throughout medical history.

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ZINACANTAN: *Which Doctor?*

by Mark L. Rosenberg '71

Zinacantan is a community of approximately 8,000 Indians of Mayan descent. They are located near the town of San Cristobal de las Casas, in the highlands of Chiapas, Mexico. Although the Pan-American highway passes through the area, the mountainous location of the hamlets has protected the physical and social integrity of the Zinacantecans from rapid assimilation by Latin culture. Most medicine and sickness is handled by Zinacantecan curers, or "seers," who receive their knowledge and curative abilities in a series of dreams. The cures they effect, or attempt to effect, may be in part physical or symbolic, but are predominantly spiritual, with the curer being called upon to pray and direct lighting of candles at sacred locations. Though nominally Catholics, the Zinacantecan religion is an amalgam of Mayan beliefs to which some Christian imagery has been incorporated. There are about 163 curers for the entire community. All the curers within an individual hamlet perform, as a group, several ceremonies each year. They have assistants who carry all the supplies for the ceremony, which might include 15 gallons of posh, a raw rum distilled from sugar. After a night of drinking, the assistants accompany the curers and the musicians to the tops of holy mountains where the candles are lit before the ritual crosses.

A typical full-scale curing ceremony begins with the afternoon arrival of the curer at the patient's home. The patient was a happy and healthy 8-year-old boy. He had been sick with a "very big fever" about three months earlier, but was having this ceremony to "complete" his recovery and give him a spiritual immunity to further illness. After seven hours of prayers and ritual eating and drinking the curing party—curer, patient, father, mother and assistants—left the house to begin the pilgrimage to the sacred crosses atop the tallest mountains in the area.

The climbing continued throughout the night and into the next afternoon, when the curer—who had by then consumed more than a quart of posh—fell into a deep sleep on the mountain top. The father and an assistant tried for many minutes to wake him, and then pleaded with him to continue the ceremony. Once again it was resumed and by 10 o'clock, after another ritual meal and more ritual drinking, the curing ceremony was concluded. The curer, asleep for good this time, had to be carried home. The ceremony was considered successful.

Drs. T. Berry Brazelton, clinical associate in pediatrics (pictured left) and John S. Robey '51, instructor in pediatrics, both spent some time during the last two summers in Zinacantan studying patterns of infant development, and scoring babies on a number of cross-cultural tests. They found that they could gain initial acceptance by saying that they could cure the "evil eye" if they, as strangers, gave it to the babies. But after the first visit, the mothers' responses to further requests to examine their children were quite unpredictable.

The Zinacantecan's attitude toward modern medicine is a complex one, shaped both by his experience with curers and the nature of his contact with modern medicine. There are two clinics in San Cristobal and a medical post in the ceremonial center which the Zinacantecans can use. But they are more likely to be introduced to their first pills through one of the many second-class drugstores in town. Almost anything is sold without a prescription, from spirit oil for "soul-loss" to two-centsworth of antibiotics for colds. None of the drug stores has a licensed pharmacist: you just tell the man what's wrong (most Zinacantecans can't speak Spanish) and take what he gives you.

Zinacantecan life and culture have been extensively studied for the past ten years by Evon Z. Vogt, professor of social anthropology, Harvard University. As an undergraduate, Mark L. Rosenberg, the photographer and author of this article, was one of those who accompanied Professor Vogt last summer to Chiapas, where he studied medical acculturation, a comparison of Zinacantecan attitudes toward traditional and modern medicine.

Epidemiology of Induced Abortion

by John D. Asher '67

My interest in induced abortion was based largely on hospital experiences during my obstetrics and gynecology rotation in the spring of 1966 at the Boston Hospital for Women. Of course I was not unaware of the existence of the problem, and, in fact, once spent a long spring afternoon in Paris trying to convince the girlfriend of a friend (it's always "of a friend") not to undergo this dangerous procedure. I was only a pre-medical student at the time and thus very firmly convinced of the dangers and risks she would suffer. My pleas were to no avail and for one thousand new French francs she was relieved of her burden. The agony of the unwanted pregnancy has been shared by many. My French friend had faced a dilemma which lurks beneath the surface on every American college campus today. Some are forced to confront the situation directly and must marry under duress, give up the unwanted child, or undergo the incalculable strain of an often dangerous criminal act. Others only hear about the problem or occasionally entertain theoretical worries about it.

"An engraving of Xolotl, an Aztec god who reigned over abortions and monstrosities."

I did not really come to grips with the issue until last spring, when, in a six-week period, I experienced three quite different and unusual cases. The first was a young college girl who was operated on as a surgical emergency because of apparent intra-abdominal hemorrhage with no history of trauma. I happened to be asked to scrub on this case. Upon opening the abdomen we were confronted with many old clots and a large quantity of fresh blood; examination of the uterus revealed several knobby blackish-blue excresences clearly visible on the surface. This was a rare complication of incomplete abortion known as chorioadenoma destruens first described in 1942.[1] The ingrown chorionic villi were cut out, the bleeding points ligated, and the patient eventually recovered.

The history of this case was slowly revealed long after the physical examination and treatment had been completed. It was a classic story: The bewildered boy friend; boy and girl both still studying and not ready to marry; no use of contraceptives; a friend who knew a doctor; a plane trip to Oklahoma City with boy friend; regular patients waiting in the doctor's office; radio blaring rock'n roll as anesthesia substitute, fainting . . . then six weeks later sudden hemorrhage.

Both "kids" were from upper middle class backgrounds. Although the parents knew nothing—about them, about the pregnancy, about the trip to Oklahoma, or even why their daughter was in the hospital with intra-abdominal hemorrhage —the necessary one thousand dollars was readily obtainable. The majority of women in this country, faced with an unwanted pregnancy, may not be in such a fortunate economic position, so that even this avenue of escape, unsavory though it may be, is closed off to them.

In the second case the history was crucial and the abortion came as a result. The patient was a young Negro woman who had three children and a devoted husband. One year previously she had been stricken with a cerebral tuberculoma and as a result was almost completely blind. In the interval of less than one year since losing her vision she had learned braille and was again able to take care of her household and family. However, she had also become pregnant. Thus, she requested therapeutic abortion as well as sterilization because of the health and economic strains any further pregnancies would impose upon her and her family. Her request was considered from every aspect with utmost care and discussed fully with both patient and husband before being acted upon.

The third case was also an application for therapeutic abortion but more complex. She was a middle-aged mother with teenage children whose husband was incapacitated for life in a nursing home. While visiting him daily she developed a friendship with a man whose wife was a paraplegic in the same nursing home. The friendship continued, became more serious, and the woman found herself pregnant. She requested therapeutic abortion. The students were asked their opinion, and we wrestled with the pros and cons just as the staff had to do. The resident who was the woman's doctor felt very strongly that his patient could not stand the strain and humiliation of a pregnancy before her friends and high school children. He felt that she would under no circumstances carry through the pregnancy. The question was what was to be the role and responsibility of the physicians to whom she had come for help.

In these three cases we faced the dual problem of criminal and therapeutic abortion and the triple factors of social, economic and health considerations. In this country abortion is a term so charged with emotional connotations that it is no longer in respectable medical usage. The near fatal complications of a criminal abortion in a single college girl, the plight of a pregnant wife recovering from crippling TB and the middle-aged mother stricken with the "disease" represent the full spectrum of the abortion problem in the United States today. Until this year, not for economic, not for social and only circuitously for health reasons was an abortion permitted in any of the fifty states.

Estimates as to the magnitude of the problem are just that —mere estimates—some less informed than others. No one knows which or how many or how often women have abortions nor is it known who does them, why they are done, what the complications are or what the death rate is. This lack of information is stupefying when one considers that the lowest guess as to the number of annual abortions in the United States is 200,000 and the highest guess is well over 1,000,000.[2] Furthermore, in New York City, for example, one-half of all maternal deaths are definitely attributable to bungled induced abortions. In this age of inquiry when millions are spent on molecules it hardly seems possible that so little is known about so great a source of preventable misery and disease.

The explanation for this gaping lack of information is probably a function of our society's generally repressed attitude about sexual matters. Investigators have not thought

Dr. Asher is now completing his internship in surgery at the Boston City Hospital (Harvard Service). In support of this study-travel program, he gratefully acknowledges the help of the Milbank Foundation through its faculty fellowship to Dr. David C. Poskanzer, and also the Harvard Medical School.

that the kind of survey information necessary about the prevalence of induced abortion in the general population would be readily available. The fact that Kinsey, by using in depth highly structured interviews was able to obtain the most intimate information, evidently has not impressed most researchers. The applicability of his techniques to the general population has not been considered feasible. My experiences in Chile were to give the lie to this attitude.

The difficulty then that faced me in trying to discover more about induced abortion in the United States was to find some people with a similar interest who were studying it. In June 1966 I went to David C. Poskanzer '54, with this problem, and he had a characteristically rapid reply. In Santiago, Chile they had obtained precisely the type of information which was and is lacking in this country. Thus was conceived the idea which resulted nine months later, in March of 1967, in a trip which lasted two months, included six South American countries and covered 17,000 miles.

The program was divided into six distinct segments: 1). The trip to Santiago de Chile via Rio de Janeiro, Brasil, and Buenos Aires, Argentina, with numerous visits to medical people and foundation personnel in each city. 2). Study and field work in Santiago, with my headquarters at the Centro Latinoamericano de Demografia (CELADE), an organization which is directed by Miss Carmen Miró and is sponsored jointly by the United Nations and the University of Chile. 3). Quito, Ecuador, workshop meeting with CELADE staff and field directors of the Latin American induced abortion survey from eight different countries. 4). VIIIth World Congress of International Planned Parenthood Federation (IPPF) held in Santiago in April and attended by delegates from around the world. 5). Back to CELADE revising my review of the world wide abortion literature. 6). The trip back to Boston via Lima, Peru, and Bogotá, Colombia, again visiting several medical and public health people.

The Trip to Santiago

I FLEW FROM NEW YORK TO RIO and stayed there for three days. During that time I spent a morning at the Maternidade Escolo with Dr. Octavio Rodrigues-Lima and his resident staff who showed me the recently established research birth control clinic. I followed a patient through a clinic visit from the crowded waiting room to the insertion of a D.I.U., Diapositivo Intra-Uterino, known to us as the I.U.D. The purpose of these newly established clinics throughout Brasil (there were 54 and more ready to open) is threefold: To combat induced abortion by providing birth control information and methods; the treatment of sterility; and early detection of genital cancer. In my brief visit I spoke with two women who represented the full range of the clinic activities. One patient had had seventeen children and wanted birth control help. A second woman had suffered six miscarriages and wanted fertility help.

Dr. Rodrigues-Lima is the distinguished professor and chairman of obstetrics and gynecology at the medical faculty in Rio. Besides Portuguese he speaks fluent Spanish and English, and he told me of the great threat to life posed by induced abortion in Brasil. As elsewhere in South America induced abortion is both illegal and widely practiced. Therapeutic abortion is a rare event, the medical indications are nearly nonexistent, and unlike the buckpassing in the United States, psychiatric indications are almost never used.

In October 1965, Dr. Rodrigues-Lima read a paper before the Brasilian Obstetrical and Gynecologic Society which stunned the meeting and directly resulted in the establishment of the first family planning program in Brasil (BEMFAM), and in the founding of the aforementioned clinics throughout the country. In that paper, called Abôrto Provocado,[3] he announced the results of a hospital survey of induced abortion which he had carried out. Based on those figures he estimated there were annually 1,488,000 criminal abortions performed in Brasil—a country with a total population of about 70,000,000. The physicians present were astounded and by the end of the meeting had adopted a plan of action to deal with this overwhelming medical problem. The plan consisted of establishing trial clinics for the provision of birth control information in order to combat induced abortion. Furthermore, social workers were assigned to every general and maternity hospital emergency ward for the specific purpose of referring women entering with complications of induced abortion to these clinics.

One of these many clinics is in Rio and is in the *favela* of Praia do Pinto. A *favela* has many names in South America. In Argentina they are called Villas de Miseria, in Chile, Callampas (mushrooms), in Peru, Barriadas and in Colombia, Varrios de Invadores. In the United States they are called slums. In all countries they mean the same thing—concentrated squalor.

The locating of a clinic directly in a slum is done in other countries also. I saw similar setups in Argentina, in Chile and in Colombia. It is generally felt that to get to the people you have to go to the people. The clinic I visited in Rio is new and active. For those seeking birth control help the method of choice is the I.U.D., with pills occasionally being used in carefully selected patients. Dr. Rodrigues-Lima put the problem in eloquent terms: "Induced abortion has been an endemic medical problem in all cultures in all ages; in our time it has become an epidemic. We must fight this epidemic with all the preventive measures available just as we would any other crippling and killing disease." The method chosen is education about birth control and provision of birth control devices to those desiring them. The assumption of course is that induced abortion is the number one method of birth control in use today in Brasil and other South American countries. In Brasil as elsewhere, there are two major opposing forces to these programs. One of these is the Roman Catholic Church, and the other is the Communist party. But neither of these forces has formed a significant opposition so far.

There were no plans for an abortion survey in Rio at the time of my visit, but in São Paulo, with the support of the World Health Organization, a group of a thousand women is being prospectively followed for the first attempt anywhere at such a mode of abortion study.

After three days I went on to Buenos Aires where I spent most of my time with various individuals from the Centro de Educacion Medica e Investigaciones Clinicas (CEMIC), a comprehensive medical care group supported by the Milbank Foundation, and directed by Dr. Sammy Bosch. I was shown around by one of their students, Gary Mayer, who is just graduating from medical school. I visited their clinics in the Villas, and talked with staff men from all medical disciplines.

The program stresses preventive aspects of medical care. A realistic goal of the preventive medical approach as described to me by Dr. Jorge Segovia is that it allows the physicians concerned to see more patients less often. An extension of CEMIC still in the planning stage would be to develop the role of a comprehensive care plan as a teaching unit in the medical curriculum. As in the United States, medical students in South America are dissatisfied with the old methods and want change. They have few formal internships or residency programs after graduation and their medical school curriculum is burdened with the old axiom—knowledge through fear—and its corollary—learn today forget tomorrow. Heavy emphasis is still placed on rote memorization rather than the application of principles to problems.

Study and Field Work in Chile

In Chile I quickly made contact with Dr. Mariano Requena, Professor of Public Health at the University of Chile and Professor at CELADE. Requena also is the Executive Director of the Comparative Study of Induced Abortion in Latin America. It was with Requena that I had previously made arrangements to work. Through him I met a number of other people in Santiago, among them Dr. Tegualda Monreal, professor at the School of Public Health. She and Dr. Rolando Armijo did the classic epidemiologic study on induced abortion in Santiago in 1962,[4] and she is currently involved in repeating the survey of Santiago. The purpose of the resurvey is to measure the effect of a widespread birth control program carried out in Santiago in the interval since 1962. Approximately 100,000 women have received contraceptive information and devices as a result of this government sponsored program. The main question to be answered is whether contraceptives reach the same group of women who use induced abortion to limit their families. Or, in other words, are contraceptive information and devices in fact a preventive measure against the morbidity and mortality of induced abortion? It was the 1962 study which showed that 26.2 per cent of women between the ages of 20 and 44 in Santiago had a history of one or more induced abortions. Moreover, high risk groups were singled out as women between 20 and 34 with three children or less, living in the city for more than ten years. It was also found that one-quarter of the women with positive histories had 58 per cent of the total number of abortions and that only 10 per cent had one-third. This last group of repeaters or hard core veterans are a striking contrast to the bewildered, frightened American college girl also suffering from an unwanted pregnancy. As is true in South America, Kinsey in his selected sample found that the married woman was injured most often by society's stand on abortion. He explained this straightforwardly on the basis of frequency of being at risk: "In all parts of the sample, but in varying degrees, it was found that the induced abortion of a pre-marital pregnancy was a fairly common event. We found, however, that the great majority of all induced abortions stem from pregnancies in marriage. This is because many more married women become pregnant than do single women."[5]

I spent my first two weeks in Chile in two ways. First, I had a desk and office space at CELADE across the street from Requena's office. The major function of CELADE's staff is to study demographic problems and to train graduate students and medical personnel in demographic techniques. My job was to familiarize myself with the extensive South American abortion literature, most of which has been presented at meetings but is unpublished. Also, plans were being made for the first meeting of the abortion survey field directors to be held in Quito, Ecuador, at the end of March. The major item requiring daily attention was the questionnaire. I sat in on all of the planning sessions and followed the evolution of the questionnaire.

My second major activity was meeting with Dr. Monreal and her field workers, and finally going into the field with her interviewers to see for myself just how women react to such interviewing. We purposely chose diverse geographic areas of the city which gave me a socio-economic cross section of Santiago from the callampas to the patios and pools. I had been warned that the reactions of women in South America would be of no value in getting similar information in this country. The argument was that down there they are much more open and would readily blurt out the full details of their pregnancy history. I, in fact, did not find this to be true. I did, however, find that with skilled interviewing, based on a relationship of confidence between the interviewee and, in this case, the social worker, all the necessary information was forthcoming. The attitude of basic respect toward the person being interviewed, much as in careful medical history taking, broke down the barriers of shame and reserve. Interestingly, my presence as a "foreign doctor" did not seem to have an inhibiting effect. On the contrary, several of the women addressed most of their answers toward me, evidently feeling that as a doctor I would be particularly sympathetic.

I spoke with a fairly representative sample of individuals. One woman had had seven children followed by five abortions. All had been carried out by amateur, untrained midwives, known as *aficionados*, and after the last one she had nearly died of peritonitis and hemorrhage. She was now interested in learning about other methods of birth control. Another woman was a lively, intelligent girl of 19 who was married and had had three children followed by the placing of an I.U.D. She brought out the encrusted I.U.D. to show me. She was keeping it as a souvenir, for it had been scraped out with her abortion several months previously. I asked about the use of oral agents, known as *pastillas*, and was told the story of the woman next door. She had been started on progestational agents and within a month had committed suicide by drenching herself with gasoline followed by self-ignition. This effectively ended the value of *las pastillas* in that neighborhood. I should emphasize that these were isolated incidents which serve only to illustrate the types and not necessarily the magnitude of difficulties met by family planning programs. These are really not greatly different fears from the cancerophobia associated with the pill in this country.

One social worker whom I accompanied used a very open-ended, almost discussion type interview approach. A second worker followed the questionnaire to the letter but with great skill in timing. Both workers obtained all the information. In summary, this field work experience showed me that the key to getting valid abortion information is to have skilled interviewers. The specific format of the questionnaire is also of importance, but definitely secondary to having experienced and capable field workers.

The Quito Conference

On march 28, dr. requena, several of his fellow CELADE staff members and I left for Quito, Ecuador, for the meeting of the field directors. This meeting lasted ten days and since Requena and I shared a room at the hotel I had an excellent opportunity to become familiar with the problems as well as the goals of the study. Representatives from Chile, Ecuador, Colombia, Venezuela, Argentina, Nicaragua, Panama, and Mexico were present. We met daily from 9:00 A.M. until late in the afternoon and on one occasion until early the next morning. The work program consisted of discussing and adopting the hypotheses and objectives of the study, two days of training in a unified sampling technique, and the hammering out of a detailed questionnaire acceptable for usage in all the countries concerned. Another equally important though unstated goal was the development of an esprit de corps among the directors to ensure a free flow of communications as the study progressed. This spirit of fellowship was successfully developed under Requena's skillful leadership. One important aspect of the meeting, which Requena alluded to in his opening address was the international nature of this study. South American nations, who do not possess a strong tradition of cooperation on any level, are now faced with a world economic and political structure which places increasing reliance on interdependence within blocks. Thus, any efforts, such as this study, that are both locally inspired and cut across national borders, are extremely important steps toward what is hoped will become a more unified region of the world. It is also hoped that this unification might take place with less agony and greater speed than Western Europe has required and is requiring.

IPPF Congress

We arrived back in Santiago one day before the opening of the VIIIth World Congress of the International Planned Parenthood Federation (IPPF). This was attended by over a thousand delegates from all continents and all political power blocks except Communist China.

The background of South America for this international meeting can perhaps best be appreciated by the vivid picture portrayed by Arthur Schlesinger, Jr. just before the Kennedy administration launched the Alliance for Progress.

> Here was a continent of 200 million souls, at least two-fifths of whom were under fifteen years of age, nearly 50 per cent of whom were illiterate, 30 per cent of whom would die before their fortieth year—a population multiplying faster than any other in the world—where 2 per cent of the people owned 50 per cent of the wealth and 70 per cent lived in abject poverty; . . . Here was a world at once fascinating and appalling in its eternal contrasts, where a highly polished nineteenth century civilization coexisted with unimaginable primitivism and squalor, and where a surging passion for modernization now threatened to sweep both aside.[6]

The conference was opened by President Eduardo Frei of Chile who welcomed the delegates and underscored the importance of family planning as a part of the economic and agricultural and educational growth of South America. James Reston of *The New York Times* was on his way to Punta del Este and covered the opening of the conference. He commented:

> A remarkable event is now taking place in Chile. The liberal *Presidente* of this Roman Catholic country, Eduardo Frei, who has plenty of political problems without adding the controversial question of birth control is now receiving the delegates to the eighth World Conference of the International Planned Parenthood Federation. This could not have happened here a year or so ago and few Presidents in Latin America, even with the ambiguous support of Pope Paul, would dare open such a conference now. . . . But as so many other things in Latin America, sex, as the fatalistic acceptance of poverty and privilege, is being questioned. President Frei here in Chile at least gave it a platform, and what is discussed here may very well prove to be more important than the political and economic discussions of the hemisphere Presidents at Punta del Este in the next few days.[7]

Chile under Frei has taken a stand on birth control which the leaders hope will help to change the bleak outlook for life which Schlesinger described. The question implied by Reston is whether, as a result of meetings like the one held in Santiago, the rest of South America will have the courage to follow Frei's lead.

The program included several hundred papers with a wide spectrum of interest from reports of successful culturing of human eggs *in vitro* to the latest technique of induced abortion utilizing a suction machine. There were daily film showings illustrating such topics as how sex education can be taught to young people as well as a dramatization of the dangers of abortion in a film called *Aborto* made by the film department of the University of Chile and produced by Dr. Requena. This film had previously been shown in all the commercial movie houses in the greater Santiago area. Many social functions allowed delegates to meet each other as well as to get some idea of what a varied land is Chile. The delegates themselves were a fascinating combination of misty eyed graduates of female suffrage movements, quick calculating demographers, steely-eyed reproductive physiologists, politically and socially aware Latin American Ob-Gyn men, and the everpresent foundation and U.N. people.

One morning session, entitled the "World Wide Problem of Abortion" was of particular interest to me. Reports were given from the Far East, Europe, the Near East, Latin America, and North America. Certain conclusions could be drawn from these reports. First, the United States has less factual information about the problem of induced abortion than any of the other areas reporting. Second, there probably is a world-wide epidemic of "illegal" abortions which is completely unaffected by various forms of legislation. Third, it is very likely, but as yet unproved, that this world wide epidemic is a direct result of women desiring to limit the size of their families. Fourth, countries that have complete or near complete legalization of abortion, such as Japan and various Eastern European countries, have been able to substantially lower the morbidity and mortality from induced abortion. Finally, even in countries where abortion is legal, ethical, moral and religious opposition to this form of birth control remain potent forces. Family planning leaders often lead this

opposition, since they prefer preventive birth control to *post facto* birth control.

Final Work at CELADE

After the conclusion of the IPPF conference, I made arrangements to keep in touch with the comparative study as it progresses in hopes that perhaps I might become involved in a similar U.S. study. I discussed this possibility with Requena, and we agreed that the benefits from such a collaboration might be great. Since his central hypothesis is that there is a predictable varying relationship between incidence of induced abortion and socioeconomic class, the inclusion of a country like the U.S., with a markedly different class distribution from any South American country, would be most illuminating.

In general terms, he sees induced abortion appearing as a form of birth control only after a certain amount of social mobility has occurred. This degree of movement seems to correlate best with having lived ten years or more in an urban center. As the upward climb continues, the abortion rate drops and preventive birth control takes up the slack to keep fertility at a relatively low rate. The study will test this theory in two ways: First, within each country, and second, country to country. The United States, with its relatively gigantic middle and upper classes, would be an invaluable addition to the group of countries already participating.

Before returning to the U.S. I had some time to think about the entire problem of induced abortion, as seen both on the individual level and on the worldwide scale. It should be clear that the individual women affected and the risks they undergo must be studied and made known. How else can preventive measures rationally be planned. On the international level, the relationship between induced abortion and one of the great issues of this century—the population explosion—must be explored. Presumably there are two major battles to be fought. As in Japan, induced abortion could be mobilized as a powerful weapon to combat overpopulation and hunger. (It is already being used in this way by women in many other parts of the world.) On the other hand, the reverse of using abortion to deal with overpopulation would be to concentrate the ever improving methods of birth control among those women most at risk to undergo abortion.

If, as some persons claim, overpopulation is indeed the number one threat to life on this planet, and if, in fact, abortion is the number one method of controlling overpopulation, necessity will force a rational reconsideration of this highly emotional issue which carries with it powerful religious and cultural implications.

It is perfectly understandable that family planners, like most rationally minded people, prefer contraception over abortion. However, the plain facts remain that abortion has no connection with the sexual act, motivation is not a problem, it works retroactively, and is 100 per cent effective. No contraceptive yet invented can claim all these advantages. For the majority of the world's population the fait accompli, in this case the already fertilized ovum, is far more persuasive than any series of family planning posters can ever be.

One might consider then that abortion be regarded as a cure for a disease, the disease being an unwanted pregnancy. Looking beyond the individual to the context of world wide disease, it could also be considered a possible cure of the world epidemic of overpopulation. The question yet to be resolved is whether the world could ever accept such a cure.

On my return flight to this hemisphere I reflected upon the South American modes of studying abortion and the implications for the U.S. Do we merely accept the concerted voices who for over 30 years have been wringing their hands and repeating again and again that there are "hundreds of thousands" of illegal abortions in this country annually? Or do we find out the exact figures by carrying out field studies in many U.S. cities? Do we get the facts and, armed with the facts, talk to the public and the legislators about the cost of medical abortion care? How much do bungled abortions and the resultant treatment, often necessitating doctors, hospitalization, dialysis, transfusions and medicines, cost this nation annually? It costs Chile, a country of about eight million people, over $1,000,000 every year. More than one fourth of all blood used in their hospitals goes to treat the complications of abortion. Economic factors of course are only part of the picture, but they are easiest to describe. It is difficult to quantitate human misery. There is not only a medical responsibility toward these women which has been avoided far too long, there is a community responsibility which has also been noteworthy by its absence. It is time in this country to act first of all by accurately defining the nature and magnitude of the problem and then, one way or another, by preventing it. South America is showing us that the way can be found. It is now our job to discover it here.

My final reflections, at 33,000 feet, concerned the medical educational process. It should be obvious to all by now that human individuals are not naturally designed to be parrots. Though they can impressively parrot back when forced to (particularly with the aid of a tape recorder!), their more happy state seems to be one of discovering things, largely on their own, but with the aid of interested teachers. Unfortunately, these simple truths are not yet accepted in South American medical schools nor at many North American ones either. It is evidently also not entirely clear to many people that all the world has become the medical stage and many medical students the future players. But, whether in the North or South, whether in the U.S.A. or Chile, those who have not yet recognized these new realities will soon have to accept the fact that indeed the time has come.

There is much to be learned outside the lecture room. I, for one, went down to South America feeling I had a lot to learn, and I returned feeling I had learned a lot.

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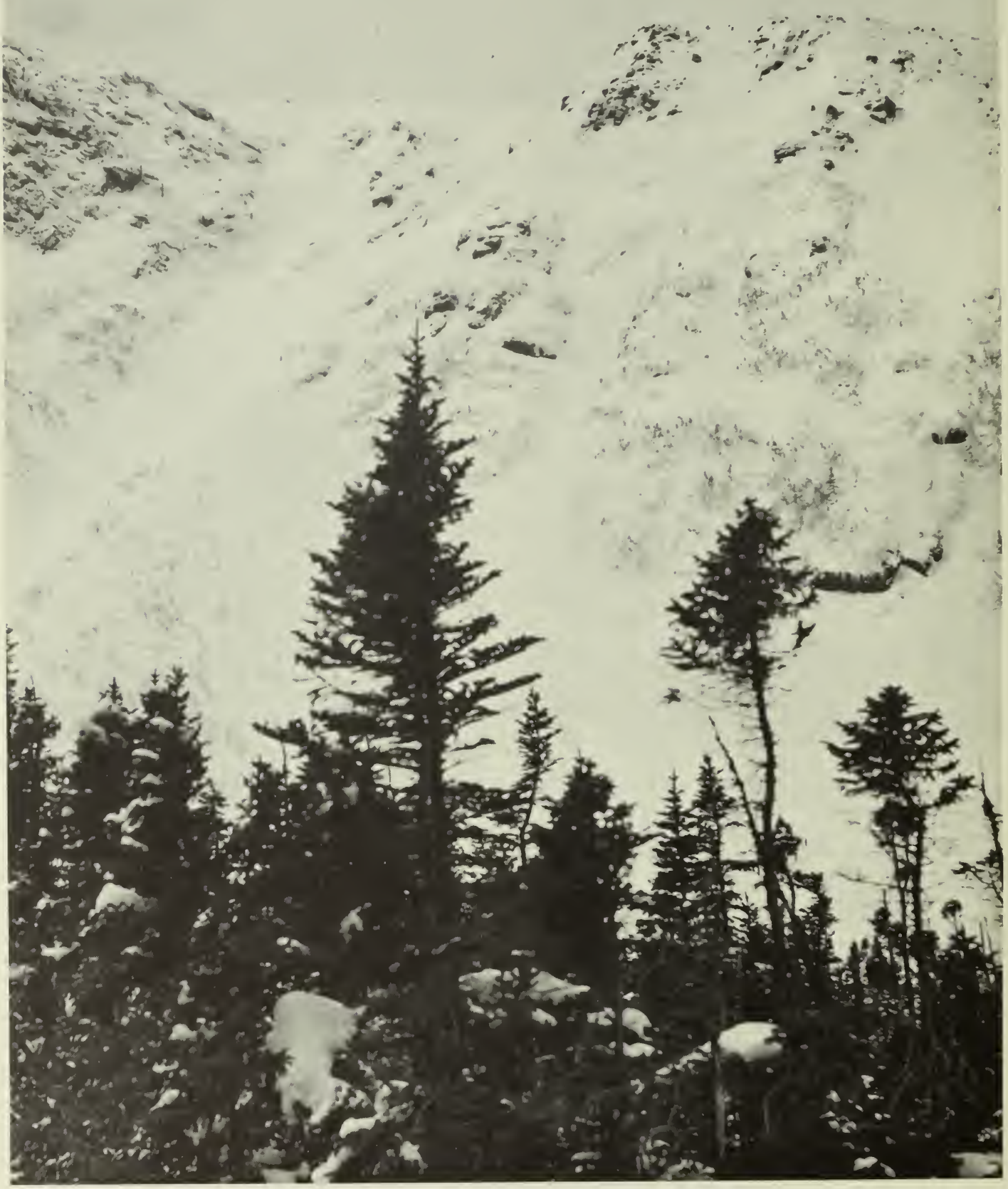
Sedges and a Spur

by George E. Gifford, Jr., M.A., M.D.



To a cowboy a boot spur is used to urge his horse, but to a New Hampshire man, Boott Spur is the prominent ridge running south from Mt. Washington. The Spur (5,500 feet), near Tuckerman's Ravine, extends as a rib from the crest of the mountain, so many of the early ascents of Mt. Washington were made by this route. The weather is fickle here—in summer the Spur is often lost in the clouds and the highest wind velocities ever recorded were attained on Mt. Washington. A mountain guide offers the following caution, "The appalling and needless loss of life on this mountain has been due largely to the failure of robust trampers to realize that wintry storms of incredible violence occur at times even during the summer months. Rocks become ice-coated, freezing fog blinds and suffocates, winds of hurricane force exhaust the strongest tramper and, when he stops to rest, a temperature below freezing completes the tragedy." This place of rugged grandeur was named for a gentle physician-botanist, Francis Boott, M.D. (1792–1863).

Dr. Boott was born in Boston, the son of Kirk Boott, an Englishman who had settled there early in life and become a cotton mill magnate and a founder of Lowell, Massachusetts. His mother was a Scotswoman. As a good Bostonian he went to Boy's Latin School and Harvard University (1806–1810). At this time he was acquainted with the venerable botanist, Jacob Bigelow, who was then collecting plants around the Boston area. Young Boott was sent to England, "to enter a countingroom in Liverpool as preparation for the mercantile life." This plan was given up and he spent three years with relatives and their friends. It was at this period that he became acquainted with the most eminent English botanists—Sir Joseph Banks, Robert Brown, Sir William Hooker and Sir James Smith. Returning to Boston in 1814 he engaged in botanical pursuits, and he amassed a good collection of New England plants. In the summer of 1816 he took a leading part in a botanical exploration of the mountains of New England, ascending in the course of the journey, Wachusett, Monadnock, Ascutney, and Mt. Washington. An account of the ascent of Mt. Washington was written by Dr. J. Bigelow and published in the *New England Journal of Medicine and Surgery*.

> On emerging from this thicket, the barometer stood at 25.93, giving our elevation above the sea, at 4,443 feet. We were now above all woods, and at the foot of what is called the bald part of the mountain. It rose before us with a steepness surpassing that of any ground we had passed, and presented to view a huge, dreary, irregular pile of dark naked rocks.
>
> We crossed a plain or gentle slope, of a quarter of a mile, and began to climb upon the side. There was here a continued and laborious ascent of half a mile, which must be performed by cautiously stepping from one rock to another, as they present themselves like irregular stairs, winding on the broken surface of the mountain. In the interstices of these rocks were occasional patches of dwarfish fir and spruce, and beautiful tufts of small alpine shrubs, then in full flower.
>
> Having surmounted this height we found ourselves on a second plain. This like the first, was covered with withered grass, and a few tufts of flowers. It's continuity is interrupted by several declivities, one of which we descended to our left, to reach a brook that crossed it here from the rocks above. There remained now to be ascended only the principal peak, the one designated in Winthrop's Journal, by the name of the Sugar Loaf; and in Belknap's New Hampshire, by the name of Mt. Washington. This we accomplished in half an hour, by climbing the ridge to the north of it, and walking on this ridge to the summit.
>
> If the traveller could be transported at once to the top of this mountain, from the country below, he would no doubt be astonished and delighted at the magnitude of his elevation, at the extent and variety of the surrounding scenery, and above all, by the huge and desolate pile of rocks, extending to a great distance in every direction beneath him, and appearing to insulate him from the rest of the world. But the length and fatigue of the approach, the time occupied in the ascent, the gradual manner in which the prospect has been unfolding itself, are circumstances which leave less novelty to be enjoyed at the summit, than at first view of the subject, would be expected.
>
> The ascent from our encampment at the mouth of New River, including stops, had employed us six hours and a half. The descent from the summit to the same place, occupied about five hours. We left on the mountain our names and the date, inclosed in a bottle, and cemented to the highest rock.

Parce, viator
cui fulmina parcent
Hoc fragile monumentum
Lemuel Shaw
Nathaniel Tucker
Jacob Bigelow
Franciscus C. Gray
Franciscus Boott
Bostoniensis;
Die Julii. 2 do. A.D. 1816
Monte. Agiocochook Superato
hic relicquerunt.

Francis Boott, M.D.

Bigelow gives a list of plants found at the summit and continues, "For a considerable increase of the collection, I am indebted to my friend, Mr. F. Boott, whose botanical zeal induced him to undertake a second visit to the summit in August." The visit was on August 25th and in a footnote Bigelow adds, "Messers J. W. and F. Boott, who have visited the mountain since, and found the atmosphere very clear on the summit at half past 7 A.M."

In 1820 Boott crossed the Atlantic for the last time and made England his home. He was now married to Mary Hardcastle. He went to London and entered the study of medicine, under a Dr. Armstrong. He continued his medical studies at the University of Edinburgh where he studied under Hope, Munro, Alison, Pillans, and Christison. After presenting his inaugural essay, *De Hydrocephalo Acuto*, he received his M.D. degree in 1824 and proceeded to Paris, where he resided for a year, studying in the hospitals and schools of medicine and natural history, attending the lectures of Cuvier, Blainville, Mirbel and becoming acquainted with Humboldt, Richard, Michaux—eminent naturalists of the time. In 1825 he settled in London, holding the chair of lecturer on botany in the Webb Street School of Medicine, where his friend Dr. Armstrong was professor of materia medica.

Boott's chief medical work is, *Memoir of the Life and Medical Opinions of John Armstrong, M.D. to which is added an Enquiry into the facts connected with those forms of fever attributed to malaria or marsh effluvium*, 1833–34, two volumes. In the Preface to his work, Boott wrote:

Carex Chinensis

Carex Boottiana

> In the present volume I have offered a view of the fevers of America, from the latitudes 32° to 45° and have made use of such sources of information as I possess to show that their types are probably connected with temperatures. . . .
>
> The fevers of North America are peculiar in one respect. They attack a people living under the same laws, and with similar customs, from an almost tropical to an arctic region. I have traced them progressively from South Carolina to the border of Canada, as they prevail in the interior and along the coast.

One cannot fail to note the similar approach to disease which had characterized his earlier botanical studies. As temperatures changed up Mt. Washington, so did the flora vary, consequently he thought disease varied according to the temperature. The influence of the natural history concepts of Bigelow can be seen clearly in Boott's reasoning.

Volume II of his opus argues that plague is periodic and that mean temperature influences its type. This volume was dedicated to James Jackson, M.D., the Hersey Professor of Medicine at Harvard.

For seven years Boott practiced very successfully in London, being especially noted for his treatment of fevers, in which he followed the practice of giving the patient plenty of fresh air; at this time this practice was heretical to the profession at large. He was one of the first to discard the black coat, white neck cloth, knee breeches, and black silk stock-

Boottia Cordata

ings for the ordinary costume of the day. This was then a blue coat with brass buttons, and yellow waistcoat, which he was to wear to the last; "and thus by outliving one fashion, as he had forstalled it, he became to be as well known in 1860 as he had been in 1830."

It is for his botanical contributions that Boott deserves to be remembered. As far back as 1819 he had become a fellow of the Linnean Society, and he was secretary from 1832–39 and treasurer from 1856–61. His botanical efforts were entirely confined to the study of the sedges or *Carex* as they are known scientifically, a complex group. Boott was offered the chair of Natural History at Harvard but he declined it feeling he was only competent as a botanist. His great work on the sedges, *Illustrations of the Genus Carex* in four folio volumes (with 600 illustrations), 1858–67, was produced at his own expense and distributed among botanists. It still stands as one of the most beautifully illustrated botanical works. It was dedicated to "John Amory Lowell, member of the corporation of Harvard College and trustee of the Lowell Institute in Boston, North America."

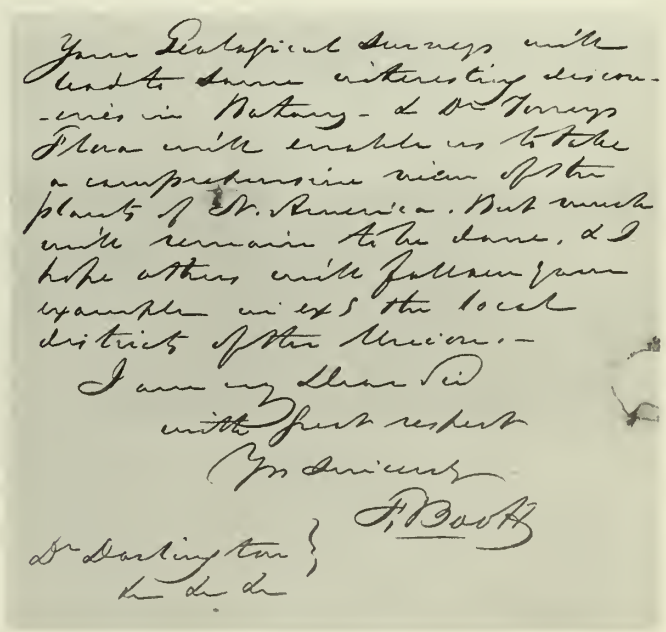
It was appropriate for botanists to honor Francis Boott. Nathaniel Wallich in *Plantae Asiaticae Rariores*, vol. I, London, 1830 named a plant, *Boottia cordata*. Of this plant he wrote:

> This is one of the most charming water plants with which I am acquainted. . . . All the green parts are eaten by the Burmese as pot-herbs, for which purpose they are collected in great quantities, and carried to the market at Ara, in the vicinity of which capitol the plant is found in ponds, growing profusely in the month of September. I also met with it towards the summit of the mountains called Toong Dong, distant about twenty-five miles from Ara, in flower in November.
>
> It affords me very great pleasure to be able to dedicate so fine a plant to Dr. Boott, a zealous and excellent botanist, whom I am proud to number among my best friends.

Sir William J. Hooker named a goldenrod, *Solidago Boottii* for his friend. This plant is found in the woodlands of Maryland and Virginia south. There is also a sedge, *Carex pica*, which is vernacularly called Boott's Sedge. Several other plants bear the eponym Boott, but these are due to the botanical efforts of Dr. Boott's brothers. As was noted earlier, J. Wright Boott (1788–1845) accompanied his brother up Mt. Washington a second time in 1816. A wild lettuce collected by him was named for him by De Candolle, *Prenathes Boottii*. A younger brother William Boott (1805–1887) was also an excellent botanist and continued his interest in sedges after his brother Francis's death. Tuckerman named a fern for William Boott, the Boott's Shield Fern, *Dryopteris Bootii*.

Exciting copies of his medical works can be found in the Countway Collection. There is a copy of his inaugural thesis, *De Hydrocephalo Acuto*, inscribed, "Dr. Bigelow—with the vivid remembrances and the love of this friend, the author." His *Two Introductory Lectures on Materia Medica* is inscribed to his brother, "To James Boott, Esq. from the author." This book was received from Samuel Cabot, M.D. *The Memoir of the Life and Medical Opinions of John Armstrong* was the book of H. I. Bowditch, 1834, Leiden. The Harvard Herbarium holds a copy of *Illustrations of the Genus Carex* inscribed "Dr. Asa Gray from the author, London, March 10, 1858."

This Boston bred and Harvard educated physician kept in close contact with his homeland, its plants and fevers and men. It seems fitting that this rocky ledge of Mt. Washington, where as a young man he climbed to search for plants, should bear his name. This gentle physician is remembered not by his medical contributions, but by a magnificent book on sedges—and a Spur.



EDITORIALS

Science and Social Responsibility

The universal concept of the physician, at his best, is still that of the skilled, understanding, devoted counselor and friend to whom one entrusts, especially when in trouble, his physical and emotional well being. To the average layman this picture has scarcely changed; the term "doctor" scarcely suggests to him the laboratory investigator, the teacher, the administrator or even the more or less impersonal surgeon, but rather the individual in whom he has placed his confidence and with whom he can communicate in confidence.

To the very youthful person considering a career in medicine, this is probably still the picture that he also envisions, depending largely on his experience; or at least it is until he becomes more sophisticated; more broadly knowledgeable. The relation is somewhat idyllically pastoral, for prior to the modern era of excessive urbanization with its relative lack of neighborliness, the good physician was wholesomely community minded.

In his Cutter Lecture delivered at the Medical School in 1948 and published that year in the *New England Journal of Medicine*, Dr. William Pickles, the internationally known and locally beloved general practitioner and rural health officer of Aysgarth, Yorkshire, described in a few simple words a minor experience that illustrated the meaning to him of his entire career. He had climbed in the late afternoon to the top of a hill overlooking his village; "And as I watched the evening train creeping up the valley, with its pauses at our three stations, I had this strange thought, that there was hardly a man, woman or child in all those villages of whom I did not know even the Christian name and with whom I was not on terms of friendship."

Although there are many physicians still living who have successfully bridged the gap between the old and the new; who entered medicine because of the concept of personal relations with and direct service to the patient, and maintained the concept, the development of modern scientific medical service, and its acceptance, has become obligatory. The inescapable philosophy of the greatest good for the greatest number has accompanied this development and has been rendered still more essential because of the increased growth of specialization and the pressure of economic necessity.

All these factors have been brought out in Dr. Ebert's lecture "Preparation of the Physician for Today's Social Responsibility," published elsewhere in this issue of the *Bulletin*. He does not depreciate the physician's sense of social responsibility but notes that it must be broadened to cover the community—indeed, to include society as a whole. Increased teamwork is of the essence of such responsibility, and that it can be achieved is indicated by the encouraging attitude of today's medical students. In a world struggling in a sea of troubles that is almost overwhelming it, he has maintained a sense of equilibrium and a sense of concern for people in the aggregate and as individuals. For the sense of personal responsibility that is a part of the physician-patient relation must be maintained.

One is reminded of the salty anecdote, current a generation ago, of the ailing businessman who was referred by his physician to the Mayo Clinic for study. As he told it, he was subdued by his impersonal reception and depressed by the various interrogations and examinations conducted over a period of days by persons who made no comments and offered no encouragement. Finally, reclothed but shaken, he was ushered into an office where "a young fellow from Boston named Reginald Fitz sat behind the desk, glancing over some papers. Then he looked up and said 'You —— fool, you drink too much.'

"They were the first kind words I'd had since I got there."

Life Is

Whereas we know about the vital statistics of almost everything else that happens in this country, we do not know whether 200,000 or 1,000,000 abortions were performed last year. What a total diminishment of humanity or rather, of womankind, is contained in such a statement; what an enormous degree of apathy and ignorant rejection we have shown towards one of the world's most basic miseries—the unwanted child!

We shall deceive ourselves, yet again, if we think that the time is at hand—this being, of course, the era of the pill—when those unknown numbers of women will no longer search in dark and slummy passageways, or disappear into high-priced sub rosa institutions for abortions. Some of those unanswered questions of Dr. John Asher's, particularly on page 21 of his article, "The Epidemiology of Abortion," might become nullified by an international acceptance and massive distribution of contraceptives, but they might not. There always will be women who become inopportunely pregnant, and if ever an unwanted pregnancy is regarded as a disease then "doing what comes naturally" must be regarded as unnatural.

That men like Dr. Asher are asking pertinent questions more and more openly betokens a deeper awareness; through it perhaps the right answers will be found. But there is one more, deceptively simple, rarely asked question, that would, if answered in fact and deed, negate the need for "illegal" abortions: How long will it be before society accepts illegitimate children and unmarried mothers as a natural, viable, valuable part of itself?

The Council Gathers Together

The Council of the Harvard Medical Alumni Association held its annual pre-Thanksgiving happening on Friday, November 10 and Saturday, November 11, with fifteen councillors and a shifting field of ancillary units in attendance. The general business session was called to order by President Spink at the Harvard Club at 4 p.m. on Friday; after the usual reports and naming of committees the important discussion centered about the most effective trajectory on which to launch next year's fund-raising program—and the objective, if any, at which to direct it.

The collection having exceeded $200,000 in both 1960–1961 and 1962–1963, and having, not unpredictably, failed to achieve such a gratifying result during the three years of the competing Program for Harvard Medicine, it again went over the previous top in 1966–1967, with a record contribution of $219 806, despite the payments still being made on the Program pledges.

Stimulated by these fiscal facts and by an abiding faith in their fellow alum-

ni, the councillors voted to establish the current goal at $400,000, wisely refraining from designating any specific uses to which such a noble harvest should be dedicated. The important point now is for all to work together in attaining the desired end.

Joined by the ladies at dinner, the augmented group heard Perry J. Culver '41, associate dean for admissions, in charge of student finances, explain how the new high-rise tuition fee would be met by lending the students increased sums with which to pay it. Unfortunately the tape recorder broke down under such extraordinary stress, compelling Perry to dictate his address at a later date.

The group assembled in the Countway Library on Saturday morning to participate in a seminar on "Prepaid Medical Care" conducted by Professor Jerome Pollack, associate dean for medical care planning. Professor Pollack's carefully prepared and admirably delivered dissertation gave further authenticity to the report that had appeared in the *Harvard Crimson* early in November concerning the School's plan for a gigantic prepaid medical program. The *Bulletin* has been promised a later and even more informative article on the subject.

The use, derivation and exact meaning of the term "seminar" has been the subject of some debate. Quite unrelated to "semi," since seminarians seldom do things by halves, the planting of seeds seems to be the proper definitive equivalent. In business circles the meeting of acquisitive minds bent on the common purpose of greater economic achievement has long been characterized as cross fertilization: hence the ubiquitous and indispensable seminar.

At the close of the session the group left by bus for Cambridge, to lunch at the Business School and undergo the harrowing experience of witnessing the gridiron clash between Harvard and Princeton. In the evening, after a dinner at THE Country Club, in Brookline, Dean Ebert discussed the pentalemma that confronts the administration in respect to the future of the Harvard School of Dental Medicine as it enters its second century of operation. The possibilities were described as follows: 1) The educational program could remain essentially unchanged. 2) The doctoral program could be dropped, and all of the resources of the School could be directed toward postdoctoral training and research, building upon the successful programs which now exist. 3) The Dental School could be incorporated completely into the Medical School and dental medicine could become a department or division of the Medical School. 4) All activities of the Dental School might be phased out of existence. 5) A new and innovative program of dental education might be devised.

Now, according to later advices, the administration of the University has decided to continue the present program but with changes in the admission procedures, in curriculum planning and content, and in clinical training practices. These decisions were made after an expert committee, convened by President Pusey, had evaluated the problems.

And so, as Mr. Pepys so often reminded himself, to bed.

Samaritans of the Snow

In a world where man's inhumanity to man is continually in evidence, where even common courtesy seems to have vanished, many Bostonians recently had their faith in their fellow man restored.

November 15, 1967 will long be remembered as the night of dead batteries, empty gas tanks, and cold feet. When the working day began, the forecast was for possible light snow, with no accumulation. By mid-afternoon the flurries had long since stopped, the temperature was 35° and the sun was making an attempt to shed some light on an otherwise drab and gloomy Wednesday afternoon.

New England weather, once described as "if you don't like it, wait a minute," again proved herself to be as temperamental, fickle and unruly as some would describe the "weaker sex." With a fury, unrivaled since 1894, a swirling blizzard descended on the North Shore and swept its way into Boston wreaking havoc on an unsuspecting, defenseless city.

Although little more than an inch of snow fell, a temperature drop of 12° in four hours, a howling wind, and cars not equipped with snow tires so early in the year, all conspired to bring the city and a million people to a standstill. Police cars, fire engines, ambulances, MBTA trains, trolleys and busses, and homeward bound motorists skidded to a halt. Nothing moved. Boston was in the midst of a monumental traffic jam. Tempers were short; expletives shorter.

Someone once said man displays his true nature in a crisis. It's true. College students all over the city directed traffic, dispensed advice, and delivered coffee to shivering motorists. One young lady spent four hours getting down a hill that ordinarily would have taken her less than a minute to maneuver. She was alone, cold, nearly out of cigarettes, and hungry. A Cadillac, with an impressively low license plate, was beside her. The passenger rolled down his window and asked how she was doing. "Fine," she replied, and because she no longer believed silence was golden, continued the conversation, commenting that she planned to abandon the car as soon as her cigarettes were gone. The man immediately passed her an unopened pack with his compliments. She offered to pay, but he'd have none of that. Moments later, the car moved several yards ahead and was seen no more.

Another half hour passed; she had not moved and decided, to paraphrase the current "in" expression, to turn off and get out. Parking the car on a divider strip, she started to walk but before long the piercing wind and slippery sidewalks forced her to take refuge at the MBTA Administration Building. Inside, the telephones were free, an elderly blind man who operates the cafeteria had kept it open to serve coffee and sandwiches to those stranded, and the authorities assured them that, if necessary, they could spend the night in the building. Kindness, consideration and empathy were very much in evidence.

Undoubtedly, there are many similar stories to refute man's inhumanity to man. But if one accepts as valid the major premise that in a crisis, man demonstrates his true nature, and as the minor premise that man's true nature should be demonstrated, the conclusion is obvious.

In a world that is crisis-oriented, yet apathetic to the point of atrophy, George Bernard Shaw's words resound with terrible accuracy, "The worst sin towards our fellow creatures is not to hate them, but to be indifferent to them; that is the essence of inhumanity."

ALONG THE PERIMETER

Dr. Farber Becomes First Wolbach Professor

Sidney Farber '27 has been named the first S. Burt Wolbach Professor of Pathology at Harvard Medical School. Dr. Farber is also Harvard's professor of pathology at the Children's Hospital Medical Center; pathologist-in-chief and chairman, division of laboratories and research, CHMC; and director of research, Children's Cancer Research Foundation.

A leading authority on malignant disease in children, he discovered that the drug aminopterin and the related chemical, methotrexate, cause temporary, but complete remission of symptoms in acute leukemia. He also discovered a drug—actinomycin D—with a specificity for Wilms' tumor. The drug reduced the size of the kidney tumor, killed spreading cancer cells, and was later found to be particularly potent with radiotherapy.

Dr. Farber's contributions encompass many areas of pediatric pathology. He was the first to describe cystic fibrosis as a generalized disorder, and with his colleagues, to find eastern equine encephalitis in man, and to recognize the importance of hyaline membrane disease in the newborn.

In 1964 he was chairman of the cancer section of the President's Committee on Heart Disease, Cancer and Stroke. In Oct., 1967 he became vice president and president-elect of the American Cancer Society, and in Nov. he received the Guy H. Heath and Dan C. Heath Memorial Award for "outstanding contributions to the care of patients with cancer" from The University of Texas M. S. Anderson Hospital and Tumor Institute.

In announcing Dr. Farber's appointment, Dean Ebert said, "he exemplifies those qualities of leadership and acumen in teaching, in the care of patients, and in research, which were the marks of Dr. Wolbach's service to the University."

The professorship honors the memory of Simeon Burt Wolbach '03, a native of Grand Island, Nebraska, who was Shattuck Professor of Pathological Anatomy at HMS from 1922 to 1947, and then professor emeritus until his death in 1954. The professorship was established by the President and Fellows of Harvard College with funds made available by the Children's Hospital Medical Center in July, 1967.

Dr. Farber

Psychiatry Professor

John C. Nemiah '43B has been named professor of psychiatry at the Beth Israel Hospital. Simultaneously, he has become psychiatrist-in-chief at the Hospital.

Throughout his career, Dr. Nemiah's interests have been patient care and the teaching of medical students. He is intensely interested in the psychiatric problems of the patient in the general hospital. He is a superb teacher and has gained the respect and admiration of HMS students and faculty. He is responsible for the second year teaching in psychopathology. Dr. Nemiah's textbook, *Foundations of Psychopathology*, published in 1961, is used as the standard textbook in many medical schools. He was invited to deliver the 1967 Class Day address—a definitive measure of the esteem in which he is held by HMS students.

Since 1962, he has been book review editor and member of the editorial board of *Psychosomatic Medicine*, having previously been associate editor. He has been asked by Governor Volpe to serve on the Task Force on Training of the Mental Health Study of Massachusetts and he is making significant contributions to the Massachusetts Mental Health program. Since 1964 he has been a member of the Mental Health Committee of the Massachusetts Medical Society where he has acquired the reputation of being one of the "voices of reason."

No Longer "Visiting"

Osler L. Peterson has been promoted to professor of preventive medicine. Since 1962 he has been visiting professor of preventive medicine at HMS.

Deeply interested in the preventive, social and educational aspects of medicine, Dr. Peterson undertook an analytic study of North Carolina general practice. This now classic work demonstrated that by systematic application of relatively simple methods of observation, in accordance with modern epidemiologic and biostatistical principles, one can substitute objective data for clinical impressions concerning content, quality, effectiveness and efficiency of health care practices. Dr. Peterson's more recent work is a study, conducted with Dr. Ivan Fahs, of the health manpower of the state of Minnesota.

In recognition of his accomplishments in medical care research, he was recently appointed associate director of studies of the Medical Care and Educational Foundation, Inc. — the non-profit corporation concerned with research in regional planning in New Hampshire, Massachusetts and Rhode Island.

Dr. Peterson received the M.D. degree from the University of Minnesota in 1939 and the M.P.H. degree from Johns Hopkins University in 1947. He is a fellow of the American College of Physicians, and a member of the American Public Health Association, Association of Teachers of Preventive Medicine, and the Society for Experimental Biology and Medicine.

PROFESSOR

Ray E. Brown: administration in the Faculty of Medicine
John C. Nemiah '43B: psychiatry at Beth Israel Hospital
Osler L. Peterson: preventive medicine

ASSOCIATE PROFESSOR

Jonathan R. Beckwith: bacteriology and immunology
Samuel Hellman: radiology at the Conjoint Radiation Therapy Center
Susumu Ito: anatomy
Edmund C. C. Lin: bacteriology and immunology
William H. Morse: psychology in the department of psychiatry
Charles C. Richardson: biological chemistry
Betty G. Uzman: pathology

CLINICAL PROFESSOR

Walter C. Guralnick: oral surgery

ASSOCIATE CLINICAL PROFESSOR

Morris E. Chafetz: psychiatry
Frank R. Ervin: psychiatry
Simeon Locke: neurology
Janet W. McArthur: obstetrics and gynecology
Bernardo A. G. Santamarina: obstetrics and gynecology
Avery D. Weisman: psychiatry
Edward W. Webster: radiological physics in the department of radiology

ASSISTANT PROFESSOR

Richard H. Aster: medicine
Eric N. Milne: radiology
Anthony P. Monaco '56: surgery
Robert D. Reinecke: ophthalmology at Massachusetts Eye and Ear Infirmary
Nicholas T. Zervas: surgery at Beth Israel Hospital

ASSISTANT CLINICAL PROFESSOR

Howard T. Blane: psychology in the department of psychiatry
Robert M. Filler: surgery
Henry U. Grunebaum '52: psychiatry

ASSOCIATE

Chester A. Alper '56: medicine at The Children's Hospital
Roberta F. Colman: biological chemistry at Massachusetts General Hospital
Robert W. P. Cutler: neurology
Vladimir Fencl: physiology
A. Arthur Gottlieb: medicine
William B. Hood, Jr. '58: medicine
Ann Maria Lewicki: radiology
Eveline E. Schneeberger-Keeley: pathology
Dorothy F. Travis: biology in the department of orthopedic surgery
Joseph B. Warshaw: pediatrics at Massachusetts General Hospital

CLINICAL ASSOCIATE

Raquel E. Cohen '49: psychiatry
Floyd H. Gilles: neurology
Francis A. Herzan: radiology
Elliott V. Miller '58: anesthesia
Silvio J. Onesti, Jr.: psychiatry
Emile C. A. Samaha: prosthetic dentistry
Alfred L. Weber: radiology

LECTURER

David J. Myerson: psychiatry
Victor M. Rosenoer: pediatrics at The Children's Hospital

Higgledy-Piggledy, Double-dactylically, Medi-biography, Humorously!

Higgledy-Piggledy,
Dr. Hippocrates
Put forth an oath that's
Become quite routine.

Graduates now, sometimes
Uncomprehendingly
Speak all the words knowing
Not what they mean.

Research today is the
King of the triad, with
Patients forgotten, it's
Really quite sad.

Here's to clinicians, they
Super-unselfishly
PRACTICE the oath which makes
Some of us glad.

Higgledy-Piggledy,
Moses Maimonides
Gave to the Jews
a tradition of thought.

Not once in life did he
Unphilosophically
Contemplate maxims not
Ethically fraught.

Higgledy-Piggledy,
Louis Pasteur, M.D.
Looked at bacteria in
Milk, beer and wine.

Found germs existed there
Micro-organically,
But if you heat them, then
All will be fine.

Higgledy-Piggledy
God Aesculapius
Son of Apollo, and
Famous for cures.

Building health temples, he
Pharmacologically
Practiced an art that
today still endures.

Higgledy-Piggledy
Benjamin Waterhouse
Viewed by physicians as
Un-orthodox.

America's Jenner, he
Inoculatively
Immunized children to
Ward off smallpox.

J.F.R.

About the New Associate Professors

ANATOMY

Susumu Ito has been promoted to associate professor of anatomy. Since 1963 he has been assistant professor.

An accomplished cytologist, known for the high technical quality of his work, Dr. Ito correlates structural changes with alterations of functional activity. He has combined phase contrast microscopy and electron microscopy to demonstrate that endoplasmic reticulum is present in the living cell and retains about the same configuration after fixation as in life. His investigation of the bat stomach in 1963 was the first comprehensive study of the ultrastructure of the gastric mucosa.

Dr. Ito received the Ph.D. from Western Reserve University in 1954. He is associate director of the training program in electron microscopy in the Department of Anatomy at HMS. He is a member of the American Association of Anatomists, American Society for Cell Biology, the Tissue Culture Association, and the Electron Microscope Society of America.

BACTERIOLOGY AND IMMUNOLOGY

Jonathan R. Beckwith has been promoted to associate professor of bacteriology and immunology. Since 1966 he has been assistant professor in the department.

By an ingenious study of deletion mutations, he discovered that so-called operator-negative (0°) mutations, which inactivate an operon, are not located in the operator locus as originally believed, but are polarity mutations located in the adjacent structural gene. Dr. Beckwith further found that the effect of these mutations can be reversed by a suppressor mutation in a distant gene. This finding revealed an unexpected connection between the translation of the messenger and either its formation or its survival. More recently, he has discovered that a polarity mutation of the same structure inhibits expression of its operon to different degrees, depending on its location; the nearer the mutation is to the next gene the less it interferes with the expression of that gene.

Dr. Beckwith received the Ph.D. degree from Harvard University in 1961.

Edmund Chi Chien Lin has been promoted to associate professor of bacteriology and immunology. Since 1963 he has been assistant professor of biological chemistry.

Dr. Lin has made significant contributions to the study of transport mechanisms. His research has demonstrated that cell membranes are permeable to phosphorylated intermediates, disproving the universally accepted theory that phosphorylated compounds cannot pass the cell membrane. Dr. Lin has also delineated a pathway in which active transport is undissociably linked to the initial step of metabolism.

Dr. Lin received the Ph.D. degree from Harvard University in 1957. He is a member of the American Chemical Society, American Society for Biological Chemists, and the American Society for Microbiology.

BIOLOGICAL CHEMISTRY

Charles C. Richardson has been promoted to associate professor of biological chemistry. Since 1964 he has been assistant professor in the department.

In 1964 Dr. Richardson detected a novel enzyme in extracts of *E. coli* infected with T4 phage. He purified the enzyme about 1,500-fold and used it to apply the technique of end-group labeling to the study of DNA structure. This technique has had two important applications: it enabled him to establish that one strand of the phage 7T DNA molecule is uniquely terminated by the sequence d-pTpG while the other strand is terminated by d-pApG; and to determine that the number of nucleotides associated with each 5′-end permitted a measurement of the molecular weight by a chemical method completely independent of previous procedures based on physical measurement.

Dr. Richardson received the M.D. degree from Duke University in 1960. He is a member of the American Society of Biological Chemists, Phi Beta Kappa, and Pi Mu Epsilon.

PATHOLOGY

Betty Geren Uzman has been promoted to associate professor of pathology. Since 1963 she has been research associate in pathology. Dr. Uzman is head of the Division of Tissue Ultrastructure at the Children's Cancer Research Foundation and senior associate pathologist at the Children's Hospital Medical Center. She designed the laboratory of electron microscopy at the Jimmy Fund Building and has been its director since it opened in 1952.

In 1953 she published a classical paper describing the formulation of the myelin sheath of peripheral nerve by the spiral wrapping of the plasma membrane of the Schwann cell around the nerve axon. This work not only established the nature and extraneuronal origin of the nerve sheath but was of broader significance because it made clear that optical and chemical investigations of myelin could provide information about cell membranes in general. For this work she received the Max Weinstein Award of the United Cerebral Palsy Association in 1964.

Dr. Uzman received the M.D. degree from Washington University, St. Louis, in 1945. She is a member of the International Academy of Pathology, Electron Microscopy Society of America, Society for Developmental Biology, and the American Society for Cell Biology.

PSYCHIATRY

William H. Morse has been promoted to associate professor of psychology in the department of psychiatry where since 1964 he has been assistant professor.

Long interested in the effects of drugs on behavior, Dr. Morse has used the technique of schedules of intermittent reinforcement to obtain long continuous control over patterns of behavior. Thus behavior has become as satisfactory a dependent variable for drug studies as any familiar physiological variable. Dr. Morse, using drugs to analyze the influences operative in the control exerted over behavior by various types of schedules, has demonstrated that punishing stimuli can serve as highly reinforcing agents in maintaining operant behavior.

Dr. Morse received the Ph.D. degree from Harvard University in 1955. He is the associate editor of *The Journal of the Experimental Analysis of Behavior*, a fellow of the American Association for

the Advancement of Science, and a member of the American Psychological Association, the American Society for Pharmacology and Experimental Therapeutics and the Psychonomic Society.

RADIOLOGY

Samuel Hellman has been appointed associate professor of radiology at the Conjoint Radiation Therapy Center. Since 1966, he has been assistant professor of radiology at Yale University School of Medicine.

Harvard's first tenure academic appointee in radiation therapy, Dr. Hellman, will also serve as director of the Center. Among the participating agencies will be: Harvard Medical School, Beth Israel Hospital, Boston Hospital for Women, New England Deaconess Hospital, Children's Hospital Medical Center, Children's Cancer Research Foundation, and the Peter Bent Brigham Hospital.

Dr. Hellman's research is concerned with lymphomas, head and neck tumors, and lung cancer. His studies of the hematopoietic system have centered largely on two problems: the importance of dose-rate in determining the magnitude of radiation injury and the role of physiologic factors in determining recovery, especially in regard to the differential effect which such factors may exercise on the erythroid and myeloid elements in marrow.

He received the M.D. degree from State University of New York, College of Medicine at Syracuse, in 1959. He is a member of the Radiation Research Society, American Society of Therapeutic Radiologists, American College of Radiology, and the American Board of Radiology.

New Elective Courses

Dr. Nicholas Mani, who is at present visiting professor in the Department of the History of Science at Harvard College, is giving a special medical history course at HMS, "The Rise of Modern Medicine."

The course will be given twice weekly on Tuesday and Thursday afternoons, 3:30 to 5:30 p.m., from February 1 to June 30. It will be an elective course open to advanced students from the College as well as to students from HMS. Among the topics to be discussed will be the development of medical practice, medical education, clinical concepts and medical science.

Dr. Mani is associate professor and chairman of the Department of the History of Medicine at the University of Wisconsin.

Unveiling Ceremony at the Countway

On Wednesday afternoon, November 15, 1967, in the Auditorium of the Countway Library, following a reception in the Lahey Room, the portraits of Drs. Walter Gray Phippen '04 and Henry Rouse Viets '16, two outstanding friends and officers of the Boston Medical Library, were unveiled and formally added to the already impressive collection, as previously mentioned in the December HMAB. The fact that a miniblizzard had suddenly enveloped the area did not prevent the attendance of an impressive number of weatherproof friends who eventually found their way home by whatever means were available. The portraits had been conjured into existence by a committee under the leadership of James M. Faulkner '24 and Jean A. Curran '21.

Dr. Phippen, who died last September at the age of ninety, is best remembered as the dean of modern surgery in Salem, who made an up-to-date institution of the Salem Hospital and served as president of the Massachusetts Medical Society and of the Boston Medical Library; he was instrumental in finally effecting the alliance whereby all fellows of the Society became members of the Library with dues deducted from an increased assessment.

Dr. Viets, neurologist of note, medical historian, for many years honorary librarian and then curator of the Library, is now consultant to the Historical Collection of the Countway.

Since no member of Dr. Phippen's immediate family had been able to reach the Library because of the icy roads, his god-daughter, Mrs. Lewis Dexter, graciously performed the unveiling of the portrait, a copy by the original artist, Harry Sutton, of the original portrait, now hanging in the Salem Hospital. The portrait of Dr. Viets was unveiled, after an encomium, by his old friend Dr. Curran.

The artist, Pietro Pezzati, told a little of the pleasure of having such a knowledgable and affable subject, and Dr. Viets responded with some reminiscences of his long association with the Library.

Dr. Viets

Dr. Phippen

Community Health

A new University-wide effort is about to be made to close the widening gap between the growth of knowledge in the health services and the diminishing capabilities of the system to deliver health services to the American people.

The Harvard Medical School and the Harvard School of Public Health, in recognition of this gap, have agreed to establish jointly a Center for Community Health and Medical Care. Their goal will be to find out how the presently available medical services can be organized or reorganized to assure delivery of the best medical care to urban, suburban and rural America.

The announcement of the Center's formation was made recently by Dean Robert H. Ebert and Dean John C. Snyder '35. They also announced that Paul M. Densen, Sc.D., will become director of the Center.

Dr. Densen, who will take up his appointment in the Fall of this year, is at present deputy administrator of the Health Services Administration for New York City. He firmly believes that universities and health agencies, local, state and national, have an inherent commitment to be jointly concerned with improvement in the quality of life in all areas of the United States. The major impact, Dr. Densen believes, can be made in that area where the university is physically located, but the knowledge and benefits gained through such collaboration can be applied broadly.

Dr. Densen received the A.B. degree in 1934 from Brooklyn College and the Sc.D. in Hygiene degree in 1939 from Johns Hopkins University.

From 1939 to 1946, Dr. Densen rose from instructor to associate professor in the Department of Preventive Medicine and Public Health at the Vanderbilt University Medical School. In 1946 he became chief of the Division of Medical Research Statistics in the Veterans Administration, Washington, D.C. After three years he left the V.A. to become associate professor of biometry (and later became professor) in the Graduate School of Public Health, University of Pittsburgh. He remained at Pittsburgh until 1954. He was then named director of the Division of Research and Statistics, Health Insurance Plan (HIP) of Greater New York. He was appointed Deputy Commissioner of the New York City Department of Health in 1959, and Deputy Administrator, The City of New York, Health Services Administration in 1966.

Dr. Densen believes that "the quality of patient care that will be most meaningful and that will have a solid base in scientific observation, will come from the broadest possible approach to the study of the natural history of disease—reaching beyond the doctor's office into the health experiences of the population where much of fundamental medical importance goes unobserved and unrecorded."

As a yardstick of medical care quality Dr. Densen favors the use of the medical audit technique which sets standards of good practice and measures individual doctor's actions against the standards.

"The application of existing standards of medical care through the medical audit," said Dr. Densen, "needs to be carried out on a wider scale if we are to increase our knowledge about the distribution of medical care in the community, and through this knowledge improve the care received by the people. Ultimately, however, the success of any medical procedure or program for providing medical care will be measured by the degree to which it alters the health status of a given population."

Dr. Densen, a popular teacher, commented that his experience has shown that medical students are often ahead of the medical faculty in their awareness of community problems. "Society must find ways of encouraging this awareness," he said.

In making the joint announcement about the Center, Drs. Ebert and Snyder stressed that key members of all faculties of the University as well as executives of Harvard-affiliated teaching hospitals will eventually become involved in the work of the Center. Leaders of those community agencies whose organizations will serve as the principal laboratories in which research and educational functions of the Center will be conducted also will be invited to membership in the Center.

An existing Harvard group, known as the Interfaculty Committee on Health and Medical Care, headed by Dr. Alonzo S. Yerby, professor and head of the Department of Health Services and Administration in the Faculty of Public Health, will serve as an advisory council to the Center. Committee membership is drawn from the Schools of Public Health and Medicine and Business Administration, the John F. Kennedy School of Government and the Department of Economics in the Faculty of Arts and Sciences.

The following six activities are expected to be included in the Center's program:

1. Research in the organization and delivery of health services;
2. Fellowship programs in medicine and public health, designed to prepare professionals with top-level capabilities for the management and delivery of health services;
3. Longitudinal studies of the natural history of disease and disability in selected population groups;
4. The measurement of quality and effectiveness of health and medical care services;
5. The maintenance and the enhancement of skills of professional health workers;
6. Studies of the interface between health professionals and non-professionals in organized health programs.

HMS + HSPH

Eighteen months ago, Dr. Sidney S. Lee became associate dean for hospital programs at HMS; and on October 1, 1967, he was appointed clinical professor of hospital and medical care administration at the Harvard School of Public Health, as a member of the Department of Health Services Administration, headed by Dr. Alonzo S. Yerby.

Dr. Lee's appointment to the Faculty of Public Health is the second in recent weeks to involve the Faculty of Medicine—the first being the appointment of William J. Curran as visiting professor of health law (HMAB, Fall 1967).

Dean John C. Snyder '35, sees Dr. Lee's new appointment and retention of his administrative appointment at HMS as "evidence of the growth of new collaborative efforts between the two faculties in their endeavors to formulate and activate improved patterns of health care for the metropolitan Boston community."

BOOK REVIEWS

Our Ophthalmic Heritage. By Charles Snyder, cloth, 182 pp., illustrated. Boston: Little, Brown and Company, 1967. $12.00.

This little book consists of a series of 37 delightful vignettes concerning great men of the past who contributed to ophthalmology or interesting episodes related to ophthalmic disease.

As the author states in the preface, the book is not a complete history of ophthalmology, but each essay is a complete presentation of one incident or personage at one moment in his career.

It covers a span of centuries from 529 B.C. when the jealousies of two early ophthalmic surgeons brought about a destructive war between Egypt and Persia, to 1872 A.D. when William Osler, turned down for a residency at Moorfields Eye Hospital, had to give up his ambition to become an ophthalmic surgeon and became instead an internist.

Many other fascinating stories are told about Celsus, Scarpa, Milton's blindness, Benjamin Franklin's invention of bifocals, and Abe Lincoln's troubles with his eyes, to name a few.

No one is better qualified to produce such a book than Charles Snyder, Librarian of the Lucien Howe Library of Ophthalmology at the Massachusetts Eye and Ear Infirmary and a medical historian in his own right.

Written in a light vein but with due regard for historical accuracy, this small volume makes fascinating reading not only for ophthalmologists but for all physicians interested in the history of medicine.

Edwin B. Dunphy '22

Macromolecular Synthesis and Growth.

By Ronald A. Malt '55, cloth, 280 pp., illustrated. Boston: Little, Brown and Company, 1967. $10.00

This volume, one of the *New England Journal of Medicine* medical progress series, consists of several recent progress reports which have appeared in that *Journal*, but which have been edited and reillustrated to form a multifaceted survey of current knowledge in the burgeoning field of molecular biology. The result, which represents the combined work of such outstanding investigators as Jonathan Warner, Ruy Soeiro, Gerald Medoff, Morton Swartz, Sheldon Penman, Donald Summers, and Paul Gross, would unquestionably serve well as a textbook for medical students studying molecular biology. It would also serve as an excellent source for clinicians and fledgling investigators who wish to gain an understanding of what molecular biology has accomplished over the past decade and an insight into what significance this new knowledge may have for clinical medicine in the foreseeable future.

Dr. Malt and the editors of the *New England Journal* deserve congratulations for having provided the medical reader with this clear and terse yet sophisticated summary of current knowledge in the most exciting new field of biomedical investigation.

John A. Mannick '53

LETTERS

To the Associate Editor:

I, like the author of "A Demonstration of Mutualistic Symbiosis" (or was it "Symbiotic Demonstrable Mutualism?") always take a nip from Noah Webster's precise vade mecum that I, too, carry in my hip pocket.

Never having completely understood the beguiling leprechaun to whom authorship of the article is ascribed, I had recourse, as is my wont, to my customary source. A garland, I discovered, is "a wreath of flowers," "worn or hung on something as a decoration," "something can be crowned with a ————," "a distinction," "a prize."

Herrman L. Blumgart '21
Boston, Mass.

To the Editor:

The story about Haiti in the Fall issue is of special interest to us since my wife and I, along with a small group of distinguished physicians, spent several days in Port-au-Prince in 1960 while island hopping on our return trip from San Juan where we attended the annual meeting of the American Radium Society. The membership of this organization includes surgeons, radiotherapists, physicists and chemotherapists and is in my opinion one of the best clinical cancer societies in this country. It was organized in 1916 and in the beginning consisted for the most part of surgeons who had finished their training at the old Memorial Hospital in New York. I felt quite honored when I was elected president in 1947 and again when I was invited to give the Janeway Lecture in 1949.

Although we were told that we would not enjoy Haiti, our stay was made very pleasant by a young man named David Burges who was just starting his own tourist service. He was very well informed and spoke perfect English.

I am also interested in the appointment of a professor of law in the medical school. During my first twenty years (1920–40) spent as chief of radiology in Baylor Hospital I learned many things about the courts and the pitfalls set up for the inexperienced expert witness as well as the frustration felt by a busy physician who is served with an instanter subpoena demanding that he go immediately to a court and testify as an ordinary witness without pay. If he refuses to go he can be arrested by the deputy serving the subpoena.

In addition every young doctor should know something about contracts, leases, loss suits, insurance, trusts, wills and most important of all how to enlist the services of an honest lawyer.

Most lawyers are reluctant to discuss such things frankly. Many of the better attorneys do not favor a law requiring them to select a member of a group of physicians selected by the county medical society as competent to testify concerning questions falling within the province of one medical specialty.

Charles L. Martin '19
Dallas, Texas

Tears without grief

Crying Spells–psychic tension with depressive symptoms?
"I don't know what's the matter with me lately...I cry and I cry... and I really don't know why I do."

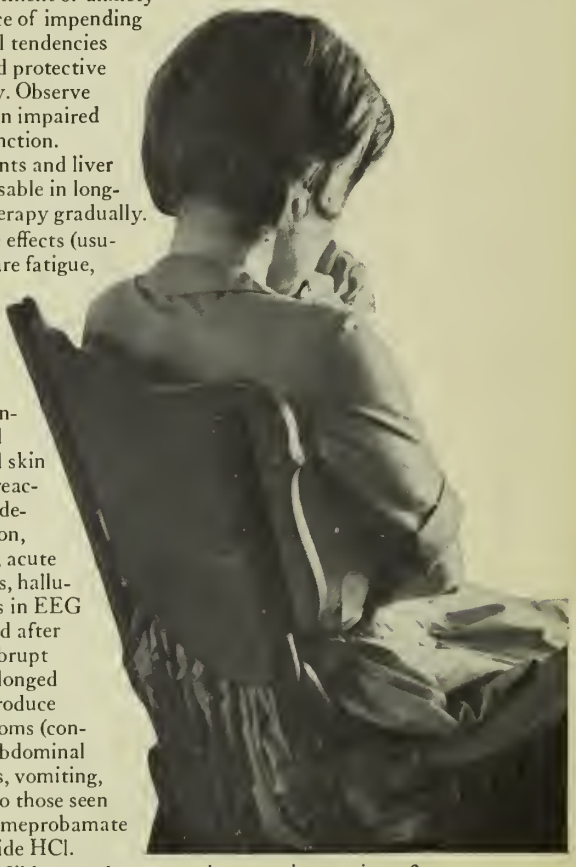
A woman often is not conscious of the real reasons for her crying spells or refuses to admit them to herself. On probing, you may find that frequent weeping, like insomnia or neurotic fatigue, often is an expression of psychic tension. She needs sympathy and reassurance, and perhaps a calming agent to help her over her crisis. Consider prescribing Valium (diazepam) for her. It usually reestablishes calmness promptly. Crying spells and other secondary depressive symptoms normally subside as the tension is relieved. Your patient then can cope more easily with stresses to which she is subjected. Valium (diazepam) is generally well tolerated, and on proper maintenance dosage usually does not impair mental acuity or ability to function. If side effects such as ataxia and drowsiness occur, they usually disappear with dosage adjustment.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.



Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage: *Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions.)

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.

Roche Laboratories, Division of Hoffmann-La Roche Inc.
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Valium® (diazepam) Roche®

useful for the relief of psychic tension with associated depressive symptoms